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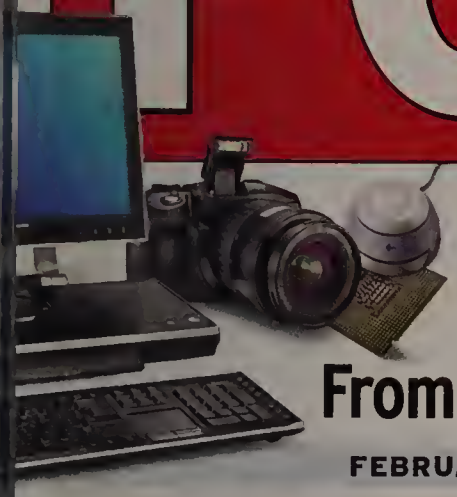

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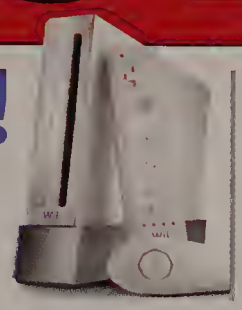

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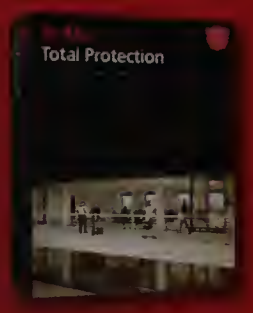

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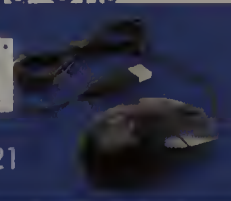

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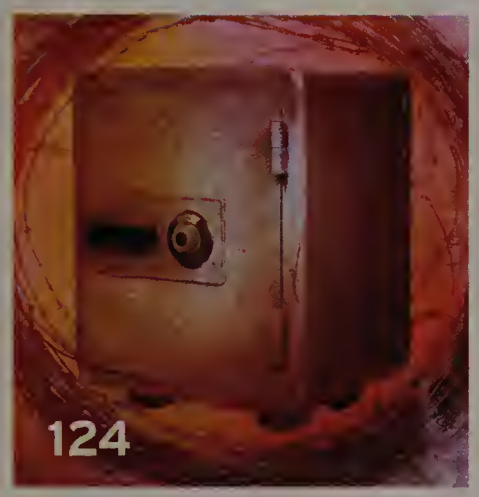

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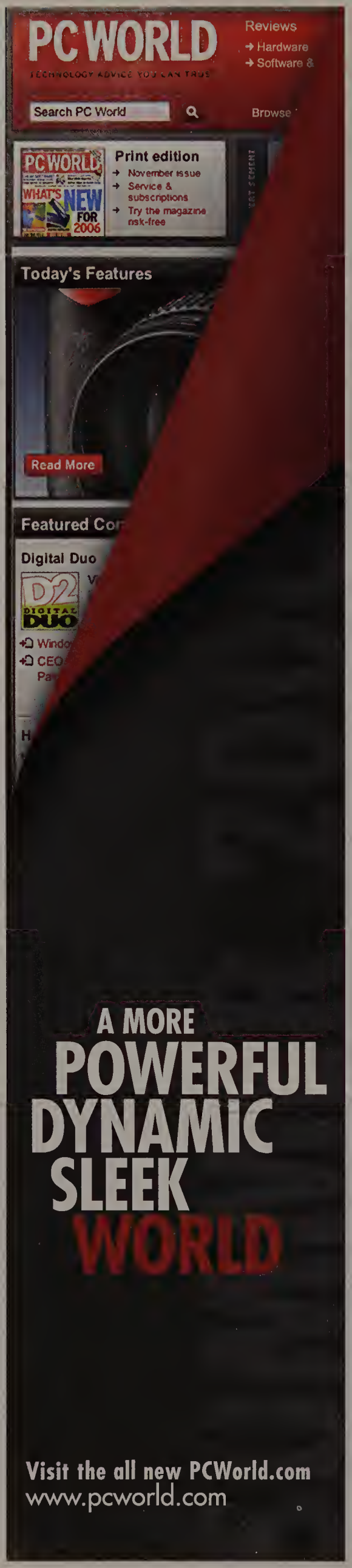

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TECHLOG

HARRY McCRACKEN

The Web: Totally Essential, Hardly Perfect

It's hard to recall life before Net tools—but easy to think of ways to improve them.

COUNTERINTUITIVE BUT TRUE: The coolest thing about the Web circa early 2007 is that it's no longer inherently cool—it's just how we get stuff done. Time was when a concept like "online banking" was so fresh and exciting it was almost intimidating. Today, for lots of us, the form of bill-paying that feels a tad exotic is the old-fashioned way—the one that involves accoutrements like checks, envelopes, and 39-cent stamps.

RYAN SINGEL, the Web watcher behind this issue's review of the most useful sites and services.

In recent months, the Web's sheer usefulness has surged to new heights, thanks to scads of upstart services for everything from crunching numbers to seeking advice on matters technical or otherwise. Enter this issue's cover story, Ryan Singel's "The Web's Most Useful Sites." For it, he put dozens of services to the test, separating the winners from the also-rans. His verdicts start on page 80.

Ryan, whose tech reporting also appears at venues such as Wired News, came away from the assignment impressed by the state of Web productivity. "I was surprised by how good many of these sites are," he says. Yet he also found evidence aplenty that the new generation of tools remains immature.

For one thing, shuttling information between services can be a chore—when it's possible at all. One example: "It's hard to share data such as contact info from a Web-based e-mail client with a Web-based instant messenger."

At the moment, it's still startling that services such as Zoho's productivity tools (www.zoho.com) can act so much like traditional productivity programs despite living in a Web browser. But as Ryan gave Internet-based applications a thorough workout, he found himself looking forward to the day when they break out of the browser and behave like full-blown stand-alone applications, period. You gotta think that'll happen before very long—and it sounds good to me, too.

CANCELLATION HELL

TECHNOLOGY, HOWEVER, MAY not be the biggest obstacle preventing the Net reaching its Maximum Usefulness Quotient (a highly scientific benchmark I just made up). Instead, that dubious honor may go to an old-fashioned issue called customer service...or the lack thereof.

At least that's how I'm feeling after reading "Just Cancel the @#%$* Account!" Senior Reporter Tom Spring's investigative report (page 119). The story was hatched last summer, with a seemingly simple pitch from Tom: He'd sign up for scads of paid services that offered a free trial. Then he'd cancel 'em—and keep track of what happened.

If terminating all those online relationships had been as simple as you might have expected; his research for the article would have been a cakewalk. No such luck. "This was one of the most frustrating stories I've ever reported," he says. "Canceling over 30 services was like having to wait in line at the DMV every day for a month."

The mere fact that Tom had to spend much time on the phone at all was a sign that something was amiss. A truly Webby service should let you close an account and solve billing snafus in a snap, using Net-based tools. The best ones do. But as "Just Cancel the @#%$* Account!" reveals, others go out of their way to make it tough to let you opt out. Some, Tom says, "seemed to be in denial that a customer would want to call it quits."

Listen up, Web companies: Ultimately, it's in your interest to let your customers say goodbye as easily as they signed up in the first place. Doing so might increase the chances that they will give you business in the future, should the need arise. Or at least your ex-patrons won't have reason to wince when they tell other folks—be they a few friends or a few million magazine readers and site visitors—about the service you provide. ■

Harry McCracken, editor in chief of PC World, *blogs at blogs.pcworld.com/techlog. Contact him at harry_mccracken@pcworld.com.*

PHOTOGRAPH: ROBERT CARDIN

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Vista: Not Slow

PC WORLD'S FIRST WINDOWS VISTA PERFORMANCE TESTS REVEAL AN OS THAT, WITH ENOUGH MEMORY AND A GRAPHICS CARD, PERFORMS FINE ON A RANGE OF SYSTEMS. BY ERIC DAHL

WITH MICROSOFT'S Windows Vista finally released to manufacturers and on the verge of making its way to retail, we can at last get down to the business of examining precisely how well the new OS performs. In our first tests, we discovered that while Vista's hardware requirements may be steep, it should run just fine—even with the Aero bells and whistles active—on machines that meet Microsoft's Premium Ready specifications (1GB of RAM, and a DirectX 9–capable graphics board with at least 128MB of dedicated memory).

We installed the RTM (release to manufacturing) Vista Ultimate code on desktop and notebook systems of varying specs and ages, and then we ran a series of benchmarks to answer several key questions about Vista's impact on performance. Our main findings:

- Vista is generally slower than XP, but it's better at multitasking on dual-core PCs.
- Your PC should have 1GB of RAM at the bare minimum.
- Aero won't slow you down if you use a discrete graphics processor and enough memory.
- Apps run slower on the 64-bit version of Vista, but adding RAM closes the gap.

Our conclusions here aren't the last word on Vista performance, however: When we conducted our tests in November, graphics companies were still fine-tuning their drivers (for example, we decided to drop our Doom 3 gaming tests because ATI's drivers didn't yet support that game's OpenGL graphics API).

Another note: Since we used updated, Vista-compatible versions of our Photoshop and multitasking tests from the beta of WorldBench 6, the results are not comparable with those for XP systems tested under WorldBench 5.

SPEED VS. XP

MICROSOFT typically claims increased performance for each new Windows version—but nearly every one requires a somewhat faster system to perform as well as its predecessor did. Our first Vista tests, though, showed some

ILLUSTRATION: JOE ZEFF

mixed results, and one very encouraging development.

Overall, our test apps did seem to run slower with Vista. On less-expensive or older hardware, the difference was pronounced. Our two low-end systems—an inexpensive 1.8-GHz Sempron 3400+ desktop PC from Dell with integrated GeForce 6150 LE graphics that rely on main system memory, and an aging 3-GHz Pentium 4 desktop from ABS using an ATI Radeon 9600 ProE card—ran our Photoshop test in Vista 23 percent and 13 percent slower, respectively, than they did in XP. Our results in the multitasking test and in the game Far Cry showed drops of 5 to 17 percent. (See the chart below.)

On newer systems, the story gets a little more complex. We ran the same tests on a 2.2-GHz Athlon 64 X24200+ PC from Polywell equipped with a GeForce 7600GS card, and on a Micro Express system with a 2.4-GHz Core 2 Duo E6600 and Radeon X1600 graphics. Scores in the Photoshop test declined by a more modest 7 to 8 percent, but frame rates in Far Cry dropped dramatically.

The Polywell system endured a 25 percent hit in its frame rate, plummeting from 114 frames per second at 1024 by 768 resolution without antialiasing under XP to 85 fps in Vista. The Micro Express PC suffered a 12 percent drop. Bumping up to 2GB of RAM did nothing to improve frame rates on either system. Since gaming tests depend heavily on graphics drivers, though, the results should improve as ATI and nVidia continue to tweak their drivers for Vista.

> Overall, our test apps did seem to run slower with Windows Vista.

DUAL-CORE DIFFERENCE

ON THE OTHER hand, if you have invested in a multicore system and are contemplating an upgrade, our multitasking test results are encouraging.

In this test we employ Windows Media Encoder to compress a video file in the background while we browse Web pages in Firefox in the foreground. On both dual-core systems, the test ran faster—29 percent and 31 percent faster on the Polywell and Micro Express systems, respectively—under Vista, indicating (as Microsoft has ▶

TEST REPORT

SOLO APPS RUN SLOWER ON VISTA THAN ON XP

Our test results, however, support Microsoft's claim that Vista surpasses XP at multithreading.

SYSTEM [1]	Photoshop (seconds; lower is better)			Multitasking (seconds; lower is better)			Far Cry (frames per second; higher is better) [2]		
	XP	Vista	Difference with Vista	XP	Vista	Difference with Vista	XP	Vista	Difference with Vista
SINGLE-CORE									
ABS 3-GHz Pentium 4 Radeon 9600 ProE	691	784	**13% slower**	591	652	**10% slower**	54	46	**15% slower**
Dell 1.8-GHz Sempron 3400+ GeForce 6150 LE	826	1012	**23% slower**	720	761	**6% slower**	20	19	**5% slower**
DUAL-CORE									
Micro Express 2.4-GHz Core 2 Duo E6600 Radeon X1600	433	466	**8% slower**	362	277	**31% faster**	140	123	**12% slower**
Polywell Athlon 64 X24200+ GeForce 7600GS	593	636	**7% slower**	492	382	**29% faster**	114	85	**25% slower**

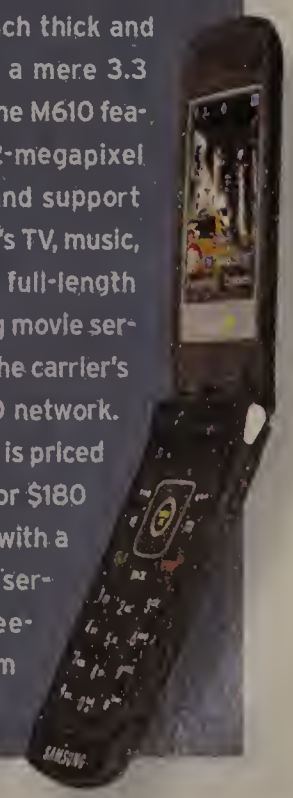
FOOTNOTES: [1] All systems tested with 1GB RAM; Vista tests performed on Windows Vista Ultimate Edition (32-bit version). [2] Far Cry tests performed at 1024 by 768 resolution with antialiasing turned off.

IN BRIEF

Product Pipeline

AMD'S 4X4: AMD has heated up the quad-core race with its Quad FX platform. Unlike Intel's Core 2 Extreme QX6700 chip, which contains four processor cores, the AMD platform achieves four cores by laying down two processor sockets—each capable of handling a dual-core chip—on the motherboard. In our tests with new Athlon 64 FX-series CPUs on a Quad FX reference PC, standard business applications didn't perform significantly better. The first new boards should be available from Asus by the time you read this; they will be upgradable to AMD's single-processor, quad-core chips, code-named Barcelona, due out in the second half of 2007. See find.pcworld.com/56051 for more test results.

RAZR RIVAL: Sprint has introduced what it describes as the thinnest clamshell handset now available in the United States, the Sprint Power Vision M610 by Samsung. Measuring less than half an inch thick and weighing a mere 3.3 ounces, the M610 features a 2-megapixel camera and support for Sprint's TV, music, NFL, and full-length streaming movie services on the carrier's fast EvDO network. The M610 is priced at $330, or $180 matched with a two-year service agreement from Sprint.



said) that the new operating system may be more efficient than Windows XP is at running multiple threads of code.

MEMORY MATTERS

FREQUENTLY AN OS upgrade comes with a hidden cost: To maintain an acceptable level of performance, you must upgrade your computer's memory. Microsoft calls for a minimum of 1GB of RAM on Vista Premium Ready PCs, and our tests indicate that that amount is a good starting point. The Aero interface can run on a PC with 512MB, but you have to switch it on; by default, if Vista finds less than 1GB, it installs with Aero switched off.

Just for kicks, we ran a few Vista-versus-XP comparison tests with 512MB of memory installed on our low-end test machines. Though the multitasking test didn't slow down much, the Photoshop times nearly doubled under Vista. The moral of the story: Don't run Vista with less than 1GB.

Moving up to 2GB produced significant gains only in our Photoshop test (see the "Vista RAM Boost" test report on this page). On the low-end P4 system, the upgrade to 2GB garnered a 10 percent performance boost. The dual-core Polywell desktop showed a more modest gain of around 5 percent (*PC World* generally considers performance differences of less than 5 percent to be unnoticeable in general business applications); meanwhile, an HP laptop with a 2-GHz Core 2 Duo T7200 processor and GeForce Go 7600 graphics ran 21 percent faster with the additional RAM.

Our multitasking and Far Cry tests showed little to no benefit from the increased memory. However, we would still recommend upgrading to 2GB of RAM if your wallet can handle it, as the additional memory will give your system lots of room for future growth.

THE 64-BIT STORY

OUR TESTS OF Vista's 64-bit version indicate that while programs generally run slower on it than they do on the 32-bit version, adding more RAM can help wipe out the difference (see the "Apps Run Faster on 32-Bit Vista" test report at left). With 1GB installed RAM, the Polywell and Micro Express PCs ran our Photoshop test 12 percent and 25 percent slower, respectively, in 64-bit Vista. When we moved both systems up to 2GB, the difference disappeared completely.

The delta on the multitasking test was much smaller—between 4 and 7 percent, regardless of the PC's memory configuration—and our gaming test results showed al- ▶

TEST REPORT

VISTA RAM BOOST: 2GB NOT A HUGE HELP

Adding to the recommended 1GB of memory sped up Photoshop a bit, but did little otherwise.

SYSTEM[1]	Photoshop (seconds; lower is better)			Multitasking (seconds; lower is better)			Far Cry (frames per second; higher is better)[2]		
	1GB RAM	2GB RAM	Difference with 2GB	1GB RAM	2GB RAM	Difference with 2GB	1GB RAM	2GB RAM	Difference with 2GB
LOW-END DESKTOP									
ABS 3-GHz Pentium 4 Radeon 9600 Pro	784	711	**10% faster**	652	651	**Not significant**	46	48	**4% faster**
MAINSTREAM DESKTOP									
Polywell Athlon 64 X24200+ GeForce 7600GS	636	606	**5% faster**	382	376	**2% faster**	85	85	**None**
LAPTOP									
Hewlett-Packard 2-GHz Core 2 Duo T7200 GeForce Go 7600	676	557	**21% faster**	348	339	**3% faster**	86	84	**2% slower**
Average of three systems	699	625	**11% faster**	461	455	**1% faster**	72	72	**None**

FOOTNOTES: [1]All systems tested with Windows Vista Ultimate Edition (32-bit version). [2]Far Cry tests performed at 1024 by 768 resolution with antialiasing turned off.

TEST REPORT

APPS RUN FASTER ON 32-BIT WINDOWS VISTA

The performance difference for applications running on 32-bit and 64-bit versions of Vista all but vanishes when you load up on system RAM.

SYSTEM	RAM	Photoshop (seconds; lower is better)			Multitasking (seconds; lower is better)			Far Cry (frames per second; higher is better)[1]		
		32-bit	64-bit	Difference with 64-bit	32-bit	64-bit	Difference with 64-bit	32-bit	64-bit	Difference with 64-bit
Micro Express 2.4-GHz Core 2 Duo E6600 Radeon X1600	1GB	466	619	**25% slower**	277	289	**4% slower**	123	121	**2% slower**
	2GB	413	414	**Not significant**	265	286	**7% slower**	125	124	**1% slower**
Polywell Athlon 64 X24200+ GeForce 7600GS	1GB	636	720	**12% slower**	382	404	**5% slower**	85	85	**None**
	2GB	606	606	**None**	376	402	**6% slower**	85	88	**3% faster**

FOOTNOTE: [1]Far Cry tests performed at 1024 by 768 resolution with antialiasing turned off.

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most no difference. We don't know how often hardware vendors will put their latest drivers through the full testing and signing process for 64-bit Vista, but these initial results suggest that, as long as your system packs plenty of memory, you won't be taking much of a hit by going 64-bit.

AERO OVERHEAD

LET'S BE HONEST: Much of Vista's appeal is tied to the operating system's flashy new interface. But what good is a slick new look if it slows your system to a veritable crawl?

The Aero interface may look as though it requires loads of graphics processing power to function properly, and Microsoft's Vista Premium Ready requirements—which cover the graphics hardware that a system should contain to run Aero—include a confusing sentence about needing DirectX 9, Pixel Shader 2.0, and 128MB of video memory. The good news is that systems equipped with almost any current graphics board will have sufficient muscle to run applications equally quickly regardless of whether Aero is turned on or off. However, we don't recommend running Aero on a PC that depends on integrated graphics (see the chart below).

We ran our benchmarks with the Aero interface turned on and off. With Aero off, we saw little or no change in the Photoshop and multitasking results on machines that carried discrete graphics systems. In fact, with the Aero graphics turned on, both dual-core desktops we tested ran our Photoshop test just a smidgen faster.

Adding a faster graphics board to either of those systems had no effect on desktop application performance. (The effect on gaming benchmarks was profound, as you would expect whenever you install a higher-end graphics board.)

If your PC uses integrated graphics, however, there's a real benefit to turning Aero off. The 1.66-GHz Core Duo T2300 Toshiba notebook we tested ran our Photoshop test 16 percent slower with Aero on. Our Sempron-based Dell desktop system slowed down 6 percent in our Photoshop test when its integrated GeForce 6150 LE graphics chip (which uses the system's main memory) had to cope with Aero.

> Aero's impact on performance may not be that great.

READYBOOST

OUR FIRST TESTS of another intriguing Vista feature were a bit of a disappointment. ReadyBoost, a new technology that promises to enhance system performance by caching data on compatible USB thumb drives, actually caused a small performance drop in our benchmarks.

But this result may reflect more on the specific tests we ran than on the technology; we're working with Microsoft to make certain we can design tests that properly capture situations where ReadyBoost is supposed to work its magic.

IT'S STILL EARLY

AS WE CONTINUE to develop Vista-ready benchmarks and to test as many systems with Vista preinstalled as we can get our hands on, we'll update you with additional findings.

In the meantime, if you are contemplating an upgrade, our preliminary tests suggest that Vista will be a decent performer on any machine with dedicated graphics hardware.

Looking back at our value-PC charts, most systems from two years ago—$1000 models carrying Pentium 4 processors of around 3 GHz or Athlon XP CPUs of around 2 GHz—would do just fine as Vista machines after a simple RAM boost. And dual-core desktop PCs appear to be great candidates for Vista upgrades.

Elliott Kirschling and Tony Leung of the PC World Test Center performed testing for this story.

TEST REPORT

AERO DOESN'T LIKE INTEGRATED GRAPHICS

For systems with discrete graphics, though, turning the Aero interface on can speed things up.

SYSTEM[1]	Photoshop (seconds; lower is better)			Multitasking (seconds; lower is better)		
	Aero off	Aero on	Difference with Aero on	Aero off	Aero on	Difference with Aero on
INTEGRATED GRAPHICS						
Dell 1.8-GHz Sempron 3400+ GeForce 6150 LE	947	1012	6% slower	749	761	2% slower
Toshiba 1.66-GHz Core Duo T2300 GMA 950	913	1084	16% slower	438	452	3% slower
DISCRETE GRAPHICS						
Hewlett-Packard 2-GHz Core 2 Duo T7200 GeForce Go 7600	678	676	Not significant	347	277	Not significant
Micro Express 2.4-GHz Core 2 Duo E6600 Radeon X1600	473	466	1% faster	278	277	Not significant
Polywell Athlon 64 X24200+ GeForce 7600GS	647	636	2% faster	378	382	1% slower

FOOTNOTE: [1] All systems tested with 1GB RAM and Windows Vista Ultimate Edition (32-bit version).

you could if you wanted to

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NETWORKING

Power-Line Shines at Multimedia

HOMEPLUG AV BEATS COMPETITORS FOR HD VIDEO AND COPING WITH INTERFERENCE.

WATCH OUT, WI-FI. New power-line networking gear, which sends data over a home's existing electrical wiring, outperforms even the fastest Wi-Fi in streaming video, our tests show.

Networks based on the HomePlug Powerline Alliance's HomePlug 1.0 specification have been around since 2002. But while comparable in speed to 11-megabits-per-second Wi-Fi, these products were eclipsed by Wi-Fi's untethered glamour. Now, however, three new competing power-line technologies with theoretical top speeds of 190 to 200 mbps promise the long-distance throughput and consistency needed for smooth video streaming.

We tested shipping Netgear Powerline HD adapters ($165 a pair, $130 each), based on Spanish vendor DS2's chips; shipping Panasonic HD-PLC adapters ($200 a pair, $130 each), which use Panasonic's own chip set; and preproduction Zyxel HomePlug AV PowerLine & Coaxial adapters ($114 each), which employ the HomePlug Alliance's new HomePlug AV standard.

FASTER THAN WI-FI

TO SET UP a power-line network, you connect one adapter to an ethernet port on your router and plug it into a power outlet. You can then add up to 16 devices by plugging an adapter into each device's ethernet port and a nearby outlet.

ZYXEL'S HOMEPLUG AV-BASED adapter (bottom left) handled interference better than its Panasonic (top left) and Netgear rivals did.

In our test with networked PCs upstairs and downstairs, about 30 feet apart in a home, all three networks transferred files more quickly than a similar Wi-Fi setup. All streamed standard-def video flawlessly, something even the fastest draft-802.11n Wi-Fi couldn't handle. But only the Zyxel HomePlug AV adapters could stream high-def video perfectly. The Panasonic gear fared worst, making the video look more like a slide show.

Because other electrical devices on the same circuit create noise that can affect a power-line network's performance, we also ran our tests with a 1600-watt hair dryer plugged in. Quality dropped dramatically, but Zyxel's units handled it best, with just 11 brief glitches. Zyxel also transferred files the fastest with interference, although Netgear took the crown when we turned off the hair dryer.

Linksys has said it would be shipping HomePlug AV products by the time you read this; D-Link has shipped DS2 gear, as well, but at this writing we haven't seen other takers for Panasonic's technology.

None of the three technologies interoperate, so stick to just one. Expect performance drop-offs as you add devices: As with any network, overall bandwidth must be shared.

Based on our tests, we recommend HomePlug AV over other power-line technologies (and Wi-Fi) for multimedia tasks. Zyxel's gear streamed HD video best and, bought individually, cost the least.

—Becky Waring

PHOTOGRAPH: MARC SIMON

TEST REPORT

POWER-LINE FACE-OFF: HOMEPLUG AV WINS

NETGEAR'S DS2 GEAR transferred files the fastest, but faltered at streaming high-def video.

POWER-LINE PRODUCT	Power-line technology	Image quality			File-transfer speed (mbps)
		Standard-definition video [1]	HD video [2]	HD video with interference from 1600-watt hair dryer	
Zyxel PLA-402	HomePlug AV	Perfect	Perfect	11 glitches	33
Netgear HDX101	DS2	Perfect	10 glitches	21 glitches	42
Panasonic BL-PA1	HD-PLC	Perfect	Slide show-like	Unwatchable	20
Wired 10/100Base-T ethernet		Perfect	Perfect	n/a	52

HOW WE TEST: We streamed video and transferred files from a server computer, connected via ethernet to a power-line-connected switch, to a client computer attached to a power-line adapter. To evaluate video streaming, we used VLC software on both computers to play standard and high-def videos (each 6 minutes, 18 seconds long) and counted visible glitches such as picture breakups and noticeable frame drops during playback. To evaluate the impact of noise from other electrical devices, we repeated the test with a 1600-watt hair dryer plugged in. We calculated the file-transfer speed by measuring the time required to complete a drag-and-drop copy of a 389MB file via Windows File Sharing. We also performed the streaming and file-transfer tests over 10/100Base-T ethernet. **FOOTNOTES:** [1] 8-mbps, 480i video. [2] 20-mbps, 1080i video. **CHART NOTE:** n/a = not applicable.

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NAVIGATION

Real-Time Traffic Info Gets You Past Jams

DASH EXPRESS COMBINES GPS DATA WITH TRAFFIC REPORTS TO FIND THE FASTEST ROUTES.

IMAGINE BEING ABLE to see traffic jams miles in advance, so that you don't get stuck in them. Dash Navigation's new service promises to give you that ability by using data collected from GPS devices in thousands of cars to detect slowdowns and direct you to the fastest route on-the-fly. Dash Express is the first traffic service with the two-way connectivity necessary to obtain real-time information on how fast cars are moving, according to the company. Similar systems are on the way, however, for cell phones and for satellite-radio receivers.

How does Dash's GPS data collection improve on the traffic information that motorists get now? GPS vendors such as Garmin, Magellan, Pioneer, and TomTom offer real-time traffic reporting options on their devices through FM- or satellite-radio add-ons; but these services are based only on reports of stalled cars, accidents, and construction slowdowns from numerous government and private sources.

And though these GPS devices receive traffic information and then calculate alternate routes to avoid problem areas, they don't report details regarding current speed, location, and other data, so the system doesn't receive real-time data on the actual traffic flow occurring along a given route or along alternate routes. Often the result is unnecessary rerouting and inaccurate drive-time estimates.

Dash Navigation will soon sell a GPS navigation box that mounts on a car's dashboard. The Dash Express device, which features both cellular and Wi-Fi capabilities, will anonymously communicate back to the Dash database the vehicle's location and speed. "As you are driving, you are putting real-time information into the system," says Eric Klein, Dash's senior director of product marketing.

VIEW UP-TO-THE-MINUTE TRAFFIC information—and routes around current jams—on the Dash Express in-car GPS navigation device.

The arrangement assumes, of course, that a legion of Dash drivers will be hitting the road. But what happens when your specific stretch of highway has insufficient data? "In addition to these constant updates," observes Klein, "the Dash Express comes preprogrammed with historic traffic data for all major roads, so it has an idea of what the road conditions are, at any particular time of the day."

Dash uses data from Microsoft spin-off Inrix, whose proprietary technology predicts traffic delays by analyzing weather, GPS data, road sensors, construction schedules, previous accident patterns, and other information. Dash Express combines the data it collects from customers' GPS receivers with the details from these other sources to compute instantly the best three routes to your destination and the expected drive time along each. To select your preferred route, you simply press a button on the unit's touch screen, after which a voice provides turn-by-turn directions.

TRAFFIC ON THE LINE

MEANWHILE, SIMILAR traffic-reporting technology has begun to emerge on cell phones. For example, the VZ Navigator GPS service from Verizon Wireless is available for an extra monthly fee on some Verizon handsets. In addition to supplying basic turn-by-turn directions on a street map, VZ Navigator simultaneously transmits your location (not your speed or other details) to an Internet service such as Traffic.com to give you a look at the road conditions ahead.

TRACKING BY CELL

WHETHER YOU KNOW it or not, your cell phone already may be helping to track real-time traffic. Atlanta-based IntelliOne (www.intellione.com) provides roadway speed data by anonymously triangulating the location of phones as they pass between cell-network towers. Since they are in constant communication to maintain their signals, cell phones in moving vehicles can provide accurate data on just how fast traffic is moving. IntelliOne's TrafficAid service combines this information with GPS data to more precisely gauge traffic flow. It will be available in 20 cities in March, and nationwide by late summer; the beta version is available in a few markets now.

Dash has a head start in the race to offer motorists real-time traffic reports because of its integrated, bidirectional Wi-Fi and cellular technology. According to Klein, Dash Express will cost around $600 to $800 for the product, plus a monthly fee of about $10 to $15 for the traffic data (after an introductory trial period). At first the device will be available only in California, but the vendor plans a nationwide rollout for this summer.

—Michael S. Lasky

PHOTOGRAPH: MARC SIMON

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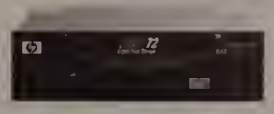

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CONSUMER ALERT

This Blog for Hire

SOME BLOGGERS PITCH PRODUCTS FOR PAY, OFTEN WITHOUT TELLING THEIR READERS.

OVER THE LAST six months, Ron DesGroseilliers has recommended more than 260 products on his two blogs—everything from travel sites and TV shows to laminate floors and lingerie.

The 47-year-old electronics engineer isn't a know-it-all with a short attention span. He's one of a growing legion of bloggers who get paid to write about products and services by PayPerPost, ReviewMe, and similar Web sites.

The sites offer an easy way for bloggers to earn bucks and for marketers to build buzz. As traditional forms of advertising lose effectiveness, word-of-mouth services hope to fill the gap. But critics say such sites are "polluting" the blogosphere, sapping credibility from a medium where it's already in short supply.

$5 TO $10 PER POST

ON THE PAYPERPOST site, advertisers place "opportunities" listing what they want to promote and what they'll pay. Bloggers typically receive $5 to $10 per post, as long as the write-up meets the advertiser's requirements, which often include a positive spin.

"People can say bad things about a product all day long," says PayPerPost chief executive officer Ted Murphy. "But why the heck should an advertiser pay them to do it?"

Bloggers aren't required to disclose their relationship with PayPerPost, but the site encourages them to do so. In October, PayPerPost started DisclosurePolicy.org, a tool for creating disclosure forms. (A random sample of two dozen PayPerPost sites found half with disclosure policies, many vague and hard to find.)

Last November, search-engine-optimization company Text Link Ads introduced ReviewMe. With this service, advertisers can pick the blogs they want products to appear in, and pay accordingly—from $30 for low-traffic blogs to $250 for A-list sites. ReviewMe splits the fee with bloggers, who are free to write anything provided it's at least 200 words long, includes the appropriate link, and discloses that they've been paid to write it.

By requiring disclosure without dictating tone, ReviewMe hopes to gain credibility and avoid the controversy surrounding PayPerPost, says company president Andy Hagans. As of this writing, more than 3700 blogs have signed up.

"I think they're doing things right, at least so far," says David Ponce, the editor of OhGizmo.com, who had written two paid posts for ReviewMe at press time. He adds, "My only gripe is that no matter how squeaky-clean things are, it's almost impossible to erase this feeling that something shady is afoot."

THOUGH DAVID PONCE, editor of OhGizmo.com, has written two paid posts on his blog, he remains uncomfortable with this growing practice.

PayPerPost critics such as TechCrunch blogger Michael Arrington have called the services a "virus," likening them to the payola scandals that rocked radio in the 1950s.

As we went to press, the Federal Trade Commission issued a staff opinion stating that companies engaged in word-of-mouth marketing must disclose the relationships or risk violation of the FTC Act, which prohibits deceptive marketing or advertising. It's unclear how this policy applies to bloggers.

> One critic likens paid blog posts to the payola scandals that rocked radio in the 1950s.

Questions about credibility and disclosure, however, may ultimately be irrelevant. The most tangible benefit of paid blogging for its sponsors may be the practice's ability to boost a Web site's ranking in Google search results, which depend in part on the number of links a site receives.

The trend is only likely to expand in the near future; two similar Web services, Creamaid.com and LoudLaunch.com, are currently in beta.

Bloggers, however, probably won't grow rich from their efforts. So far DesGroseilliers has pocketed just over $2100, making him one of PayPerPost's top earners. But he says that it isn't just about the money. "I'm helping decent advertisers get their name out there while helping cost-conscious consumers find beneficial products and services," he says.

—Dan Tynan

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PLUGGED IN

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Video Downloads Take Off

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WORTHY VIDEO

The Buzz: After years of downloadable videos that were too restricted, too low-res, and far too expensive for what you got, the category may finally be ready for prime time. The sheer number of new, big-time players is staggering. Sometime this year Time Warner plans to offer downloads you can burn to DVD, possibly on the same date as a movie's retail DVD release. Blockbuster's CEO says the rental giant may open its own download service. Microsoft has already launched a video section of its Xbox Live Marketplace, presenting TV shows, standard-definition flicks, and high-def movies for download for about $2 to $6. Even Wal-Mart is getting in on the act, with a strange

deal that lets you add on a portable-ready video file for $2 to $4 when you buy a DVD. And of course Apple's still around as well.

Bottom Line: With all these new offerings, it's even possible that one of the providers will be able to trick movie studios into serving up a product with digital rights management restrictions that don't treat users like criminals. Probably not, though.

SHIP NOW, FIX LATER

The Buzz: Sony's PlayStation 3. Nintendo's Wii. Microsoft's Zune. What do all three have in common? Nope, it's not limited supply and gigantic lines at launch. (Honestly, who actually lined up for a Zune?) No, like many PC games and countless other hardware releases, all three of these heavy hitters required firmware or driver updates right out of the box. Plug it in, turn it on, and get ready to download. With so much pressure on developers to hit a certain launch window, the preferred approach has become "release it now, repair it later." Even so, problems like the PS3's scaling issues on some high-definition TVs still weren't fixed after that product's first three updates.

Bottom Line: Hmm...I'm not sure I made that point as clearly as I could have. Ah, well, I'll just fix it online. Head to www.pcworld.com/pluggedin-patch to download the latest update to this column.

AJAX GOES OFFLINE

The Buzz: Slick Ajax-based browser applications have a pretty significant drawback: If you aren't online, you can't use them. Me, I just curl into a ball and weep softly if I'm stuck without a Net connection for more than a couple of hours. If you prefer to take a more productive approach, keep an eye out for apps with so-called offline Ajax capability. Zimbra (the extremely cool open-source Outlook competitor) was among the first to make waves with this technique, demonstrating some intelligent caching code that will let Zimbra users browse their e-mail, calendar, and RSS feeds when they're offline.

Bottom Line: Expect to see other Ajax apps follow suit, creating much more useful browser-based software. Of course, you should also expect to see lots of buzz-based funding for silly new projects. ■

You can contact PC World *Senior Editor Eric Dahl at eric_dahl@pcworld.com; visit find.pcworld.com/31643 to read additional* Plugged In *columns.*

FUTURE TECH

HIGH-DEF, BUT SMOOTHER

AS LCD TVs CONTINUE their march toward affordability, manufacturers are looking for new ways to improve the products' quality as well. The latest trick involves boosting the LCD refresh rate from 60 Hz to 120 Hz and inserting interpolated frames to help smooth out fast motion and cut down on the ghosting that sometimes affects this type of display. JVC was the first to market, with a set that uses its Clear Motion Drive technology; the 37-inch LT-37X987 costs $2700. Samsung and Sharp are each working on their own 120-Hz HDTV models as well.

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4. **TORQ MIXLAB:** Create tracks with this entry-level, $130, combination hardware/software DJ package from M-Audio. find.pcworld.com/55975
5. **BLUEORGANIZER:** Handy Firefox plug-in helps you find related information on tons of social sites. adaptiveblue.com

ILLUSTRATION: GORDON STUDER

Small City Reaps Big Rewards with Voice over IP

Powell, Wyoming, businesses and city government prosper with AltiGen phone systems

For a small city with a tradition of being very progressive when it comes to deploying new technology, the inside joke was the "mash phones"—so called because users had to mash their fingers hard onto the handset buttons to make a call.

In addition, the central phone system at the offices of the City of Powell, Wyo., frequently needed rebooting because extensions or various other features wouldn't work. "We badly needed to upgrade the phone system," says Zane Logan, city administrator.

Logan heard that the First National Bank & Trust of Powell had recently deployed a communications system built around Voice over IP (VoIP) phone technology from AltiGen Communications. Word of the bank's success with AltiGen's IP telephony spread fast, and soon several other businesses were touting their AltiGen solutions, including *Eastman's Hunting Journal*, LJS Realty and Nelson Insurance.

Now it was the city's turn, where officials have had a keen interest in using technology to attract business and promote tourism. Josh Baxter, chief technology officer at the bank, demonstrated the AltiGen VoIP phone system to Zack Thorington, the city's information and communications specialist. Advanced features in the AltiGen system were particularly appealing.

Thorington was impressed. Working with AltiGen reseller CTI Communications LLC of Fort Collins, Colo., to handle the installation, the City of Powell started down the road to a new AltiGen VoIP system. With CTI's help, the VoIP system connected right into the city's fiber network through its existing network switch. The integration of the 911 system, a vital cog in the city's overall communications network, was "nearly transparent to the customer," says Rich Browne, CTI's president. The system seamlessly connected into all eight major departments in a city-wide effort, including police, fire, sanitation, electric, water, parks, streets and the animal shelter.

Even more impressive was the speed with which the deployment took place. CTI and the city had planned to spend an entire weekend implementing the VoIP system. They finished the job in one day. "It was true plug-and-play," says Thorington.

EFFICIENCY AND PRODUCTIVITY

Since the City of Powell installed the VoIP system, "we've been more efficient and productive," notes Thorington, who now gets calls routed to him automatically, even when he is in the field. The city currently is focused on tapping its new AltiGen VoIP functionality, such as the full-time voice recording of police calls in a central archive. Additionally, the city is saving real money by making changes, such as adding extensions or changing service, simply with its own staff instead of having to pay for additional telecom provider services.

AltiGen's IP 710 Phone

The AltiGen system is something of a symbol of the city, and its businesses' dedication to serving the public with the best technology. Says Logan: "We may be a small city in an out-of-the-way place, but we have a state-of-the-art phone system."

AltiGen Communications, Inc.

AltiGen Communications, Inc. (NASDAQ: ATGN) is a pioneering manufacturer of VoIP business phone systems and call center solutions. Founded in 1994, AltiGen was first to market with self-administration, and recently received *Internet Telephony Magazine's* 2005 Product of the Year for its IP 710 telephone.

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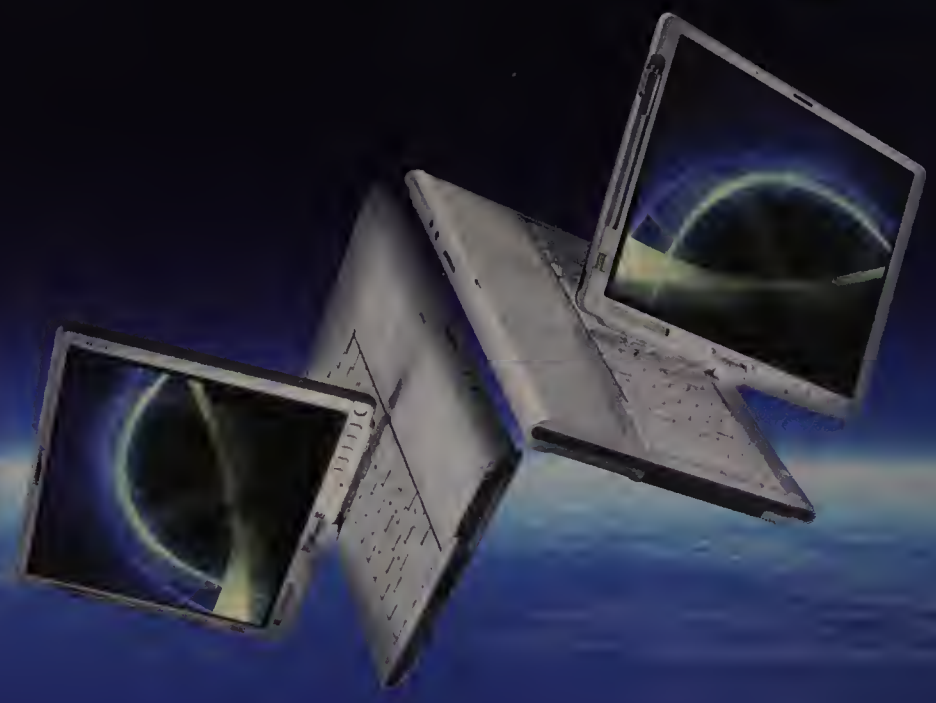

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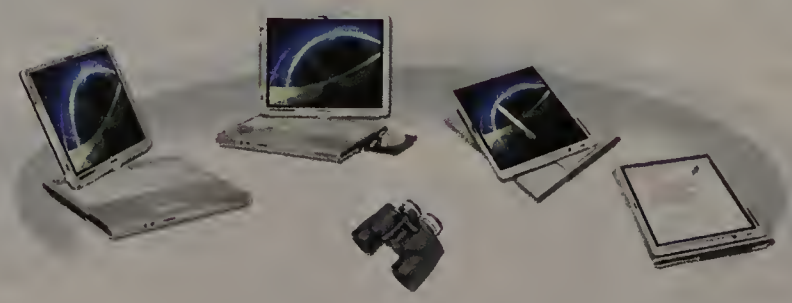

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LETTERS

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THE DILEMMA OF HDTV RATINGS

A HIDDEN NEW SHOPPING RIP-OFF?

HOW TO CLEAN YOUR MONITOR

LOOKING AT HDTVs

I PURCHASED YOUR Best Buy LCD, the Vizio L37HDTV ["More HDTV for Your Money," December], but got a replacement two weeks later. The problem? The poor operation of the remote. The TV would *not* recognize its signal anywhere beyond the left or right edges of the TV from about 10 feet away, and the signal could take 10 to 20 seconds to have an effect. My replacement had the same troubles.

Your evaluations should include the performance of the remote. How many people get up to change the channel anymore?

Fran Smith, Newport Beach, California

I WAS "THIS close" to buying my first HDTV set when I read your article "New HDTVs Bring Higher Def, Better Color" [*News and Trends*, December] and learned that the new HDMI 1.3 interface, coming soon, would boost color and audio. *PC World* was the last place I expected to hear about new TV technology, but the first publication to bring this info to my attention!

Roger Miller, Apple Valley, Minnesota

NEW BROWSERS, MORE HASSLES?

THANK YOU FOR Erik Larkin's article "Beefed-Up Browsers" in the December 2006 issue. One problem with Firefox gets no mention, however.

My copy of Firefox 2.0 cannot show videos on the CNN site. I hunted around on the Web for information and found that this shortcoming is not uncommon. Some posts from people maintaining multiple PCs report that it is a hit-and-miss problem. Some proposed fixes work on some machines, but not on others.

Rich Scarlet, Spencer, Massachusetts

REGARDING UPDATING from Internet Explorer 6 to IE 7, there is a very big downside if you own an HP printer that uses HP Director software: Director absolutely does not load once you update to IE 7. As of now, there is no patch to correct this problem. Therefore, you cannot access the features necessary to operate the printer, except from the printer itself.

Steve Rettig , Manalapan, New Jersey

Editor's note: HP is currently working on a fix; see *Bugs and Fixes* on page 47.

IE 7 STILL is the only browser to offer a right-click Print Target function. This feature is very useful for people who need to print a lot of individual pages every day. I find Print Target to be a real time-saver. For all my other Web browsing, I have been using Firefox.

Peter Hayward Cronin, Cernobbio, Italy

YOUR ARTICLE DIDN'T say whether version 7 addresses IE's most important flaw (and Firefox's most important feature): text size control. It doesn't work in IE 6 for the many Web sites (including PCWorld.com) that don't conform to Accessible Web Page Design Standards.

For those of us no longer blessed with perfect vision, Firefox is the browser of choice. Even ancient versions of Mozilla and Firebird let me resize text on non-compliant sites. Who needs all the cutesy-poo navigation features if the words are too small to read when you get there?

William J. Zehner, Lynn Haven, Florida

THE FIRST THING I noticed when testing out IE 7 was that my image toolbar (the little four-box bar that appears ▶

HOT TOPICS IN FORUMS

Vista, Zune, Wii, and Copy Rights

HERE ARE SOME of the hot topics going on now in our forums. You can take part in our community discussions by heading to find.pcworld.com/55165.

▸ **WINDOWS VISTA:** "I've been checking out my version of Vista [Release Candidate 1]. There really isn't much difference between XP and Vista other than the 'eye candy.' ... C'mon Microshaft, impress me already!" *–Cosmo*

▸ **MUSIC PLAYERS:** "I'm sticking to MP3/CD players. No reason for iPod or Zune, and if I had to choose, iPod is the choice I would go with." *–TheNameless*

▸ **NINTENDO WII:** "I played the Wii last week at the house of a friend who somehow got one of these things. [The game console is] a real winner. Adults can actually play. No longer needed are small nimble fingers." *–VAYLEN*

▸ **COPY RESTRICTIONS:** "I recently received a [copyright infringement] notice from my ISP for downloading an episode of NBC's *Heroes* with Bittorrent. I missed the third episode and don't see what harm I am inflicting upon NBC by downloading it, viewing it, and then deleting it afterwards." *–ImaPhake*

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when you leave your arrow over a picture to save or print) was missing. I tried all the advanced settings and could not find any mention of it. Finally I learned that Microsoft had arbitrarily removed it because "a majority of people felt it was an annoyance."

What majority? Not me, and not all the other people who were writing in about it. So why take away a harmless feature from an upgraded version without even leaving in the option to turn it back on? Because Microsoft decided, that's why!

Evelyn Henry, Ridgewood, New York

SHOULD PCW RATE HDTVs?

IN THE DECEMBER issue's *Techlog*, Harry McCracken asks, "Just how much attention should...*PC World* devote to stuff that isn't PC-centric?"

I rely heavily on your magazine to help me get the most from my PC. By and large you have done that, but I sense your focus is becoming blurred.

You cite this month's review of a number of HDTV sets as "essential" for your readers. I disagree—and I am on the brink of buying an HDTV! There are literally hundreds of models available out there; your selection barely scratches the surface. Your survey simply displaced other articles that might have brought useful insights and information.

Phil Alden, Naples, Florida

PLEASE COUNT ME in as one reader who loves *PC World*'s articles on HDTV. As you know, one of the watchwords in the PC universe today is *convergence*. And HDTV is becoming more and more an integral part of the overall PC converging experience—along with digital cameras, portable music/video players, satellite radios, and so on. Keep up the great work.

David Berge, Del Rio, Texas

I AM DISMAYED by your spate of articles on dubious technological gadgetry, toys, and trends. Your recent article on staying safe using social networking sites [*Internet Tips*, October] was the last straw for me. Nonsense like that has no place in a publication seeking to assist the small-office/home-office user.

Needless to say, I am done with *PC World* and will now move on to a more serious small-business-user computer workstation magazine. Your editorial direction has alienated this reader.

Andre De Leon, Tucson, Arizona

NEW SHOPPING ANNOYANCE

DECEMBER'S "HOW TO Avoid the Biggest Web Shopping Annoyances" was very good. I just ran into another rip-off in buying a large LCD HDTV—namely, charges slipped in at the end of ordering. Using several shopping bots, I discovered a few resellers with excellent prices and apparently reasonable shipping costs.

With the first one I called, the salesman said at the very end that there was an extra charge for the truck shipping insurance and that it was mandatory. This charge, on top of the $169 shipping fee, amounted to, believe it or not, $175!

Other vendors introduced similar add-on charges. I eventually bought my set from an established vendor, paying just the shipping without any insurance.

Geoffrey Orton, Carefree, Arizona

A BETTER CLEANER

REGARDING YOUR DECEMBER issue's *On Your Side*, "Monitor Cleaners May Harm Screens," I've looked into many types of cleaners and found one to be superior. Besides cleaning monitors, it cleans all of my computer hardware with few or no side effects. This product, which I've used for the past two years, is Endust for Electronics.

Just be sure to spray it on your cleaning cloth first to avoid any overspray residue.

Steve Harrison, Anaheim, California

PC World welcomes letters to the editor. We reserve the right to edit for length and clarity. Send e-mail to letters@pcworld.com. ■

TELL US WHAT YOU THINK

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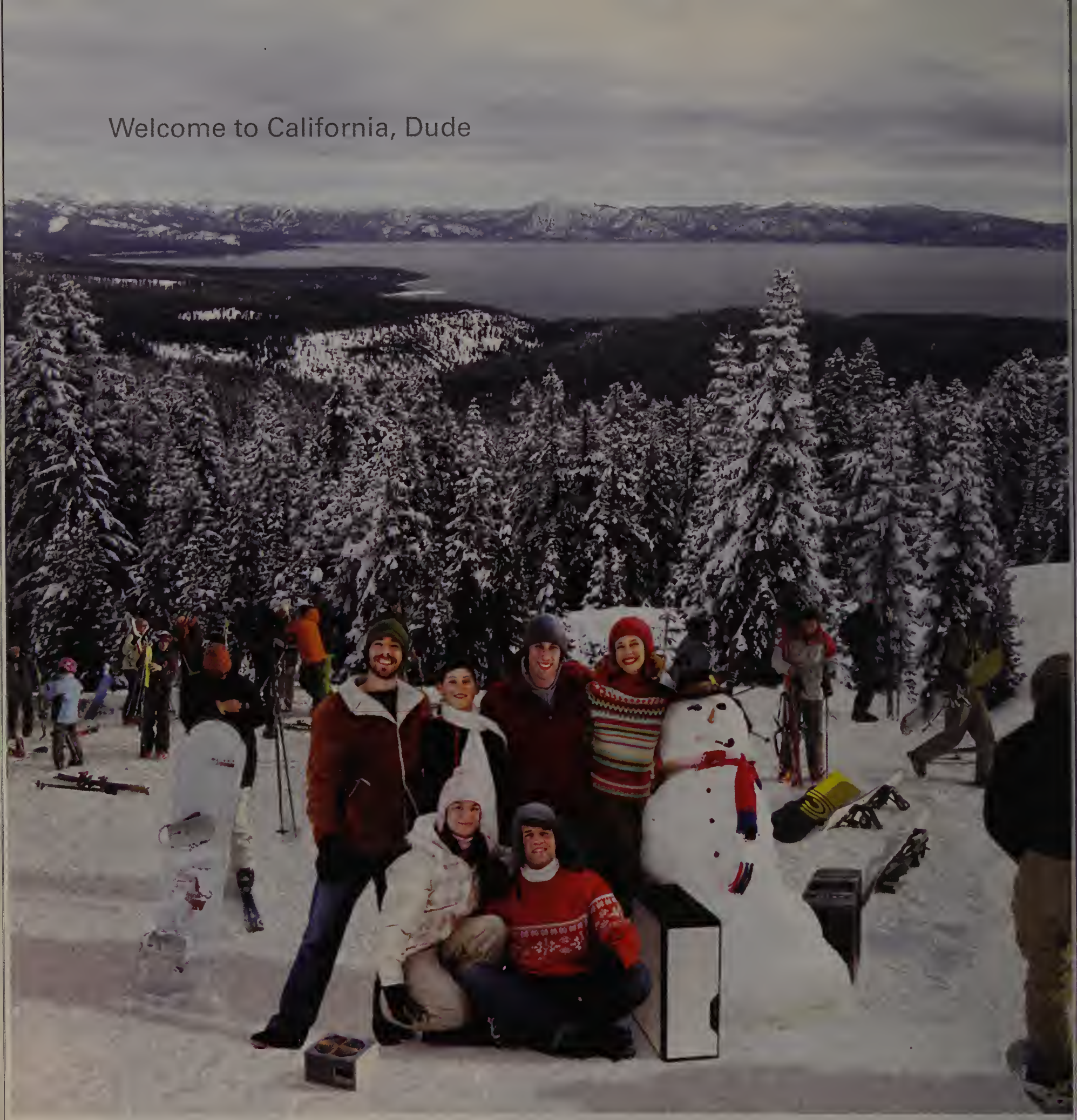
Welcome to California, Dude



This is California? Home of beach babes and surf contests? It might surprise you that California is also the home of snow bunnies and championship ski runs. Just like it might surprise you that Antec's world headquarters is located in California's Silicon Valley, the heart of technological innovation. Our unique California spirit of performance and originality help make Antec's products market leaders. Like our all-new Nine Hundred advanced gaming case or our environmentally friendly EarthWatts power supplies. So whether it's snowboarding or silicon chips or silent PC cases, think California. Think Antec. Think the Power of You.

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CONSUMER WATCH

YARDENA ARAR

SHRINK-WRAPPED VS. DOWNLOADED SOFTWARE

PROTECT YOURSELF FROM ACTIVEX ATTACKS

BEST BUY SCRAPS SOME HASSLE-PRONE REBATES

Say So Long to Shrink-Wrapped Software

But take a few precautions when you download your software purchases.

I RECENTLY HAD to reinstall a whole slew of applications on my work PC, following a clean install of Windows Vista. It took me the better part of the day to get my most important packages up and running. And weeks later, I'm still reinstalling the odd utility or game that helps me make it through the day. But in the end, I was pleasantly surprised at how smoothly it all went—and how much of the resurrection occurred without reliance on CDs or DVDs.

Practically everything I needed was a download—from *PC World*'s corporate servers, from the Downloads folder on my hard drive, or from the Web. Almost nothing was on a disc, which certainly wouldn't have been the case several years ago. It made me wonder: Is the age of shrink-wrapped software ending? If disaster strikes, are you better off with discs, or are downloads good enough?

Some people are simply more comfortable using discs—and in some instances, with good reason. "They want the CD-ROM in case anything happens or they have to boot from the CD," says Chris Swenson, director of software industry analysis for the NPD Group, which tracks software sales. Others might not have room on their hard drives to store a lot of installation files. But often, downloading software makes more sense than getting it from discs.

ILLUSTRATION: MARC ROSENTHAL

ALL-NIGHT STORE

BROADBAND MAKES IT feasible for people to download large programs that they would never have dreamed of obtaining over a dial-up connection. And as more software becomes available electronically, more customers are forgoing discs. Even Microsoft is climbing aboard the download wagon, with a trial download program for its new 2007 Office software suite. Adobe now sells its entire line of content creation software electronically—and though the company won't disclose what percentage of its sales are downloads, that business is definitely growing, says Mark Floisand, the company's director of worldwide direct commerce. Meanwhile, 45 percent of customers who buy an edition of Intuit's QuickBooks at QuickBooks.com download it, says Heidi Jackman, group marketing manager for its site. And at about 430MB, QuickBooks isn't a trivial download: Intuit estimates a download time ranging from 20 to 45 minutes over broadband. Adobe's Creative Suite, meanwhile, requires more than 5GB of hard drive space, so it's a very lengthy download even with a broadband connection. With files this big, you might want to use a download manager (if the software maker's store allows you to) that will let you resume the transfer without starting over if, say, your Internet connection drops. For this purpose, my colleague Erik Larkin recommends LeechGet (www.leechget.net), a free utility that works with all the major Internet browsers.

Many shrink-wrapped Adobe packages come with hefty printed manuals. But if you buy the software as a download, you'll get the manual only in electronic form (as a PDF). Adobe is willing to send download buyers the printed manual—but at a cost of $35 to $50 for something that buyers of the shrink-wrapped product get for free. In this case, I'd defer the instant gratification and instead go for the box with the discs and the manual.

If you want both the convenience of downloading and the insurance of having physical media on your shelf, you may be able to purchase backup installation discs. Intuit charges about $10 to cover shipping and handling; and Adobe charges between $10 and $20, depending on how many discs the product requires.

DIGITAL RECORDS

IF YOUR HARD drive dies, you may actually have more options for reinstalling downloaded software than for replacing shrink-wrapped versions. That's ▶

because most companies retain records of customers' downloads. So even if you lose the product key that the vendor included with your download when you purchased the software, you can probably arrange with the company to get a free replacement—typically by logging in to the account you established as a download customer. When I lost PopCap's Zuma Deluxe game in my Windows Vista install, I couldn't find my product key. So I e-mailed PopCap and received a replacement key from it within 24 hours.

Of course, if I had purchased the game on CD, I wouldn't have had to wait 24 hours to reinstall it; on the other hand, if I had lost the CD, I probably wouldn't have received a free replacement copy, because PopCap wouldn't have had a record of my purchase unless I had registered the software. (Unlike registration, product activation simply verifies that the software you're installing is a legal copy not already installed on another system. It doesn't identify you to the vendor.)

Intuit requires all QuickBooks users, whether they purchase a box or a download, to register within 30 days of installing the product. If a catastrophe—be it a hard-disk crash or a fire—later strikes, Intuit will replace the software, regardless of how you acquired it. You'll be able to download it for free, or pay around $10 for a replacement disc to be shipped to you. Either of those options beats having to pony up for a brand-new license.

> At QuickBooks.com, 45 percent of those who buy QuickBooks get it as a download.

If you download software from Adobe, you don't have to register separately to be protected, because you're already in the system. The company doesn't require buyers of its shrink-wrapped products to register, but you should take the time to do so, because if you lose your CDs or DVDs, your registration is your only recourse. Even if you do register a shrink-wrapped version, you'll have to pay $10 to $20 and wait for mailed replacement disks (Floisand says that the company is considering allowing people to create Download Center accounts, however).

In any case, don't interpret a company's stated willingness to keep track of your purchase as an absolute guarantee, because businesses lose customer records all the time. For the best protection, record your serial numbers, activation keys, customer numbers, and other unique identifying information in one place—say, in an Excel spreadsheet on your hard drive—and then save a copy of the document somewhere else, such as on a USB drive, an external backup drive, or even in a Web-based e-mail message.

SHOULD YOU SHUN SHRINK-WRAP?

BEFORE DECIDING BETWEEN downloaded software and a shrink-wrapped copy, find out what your options are if disaster does strike. Will the vendor keep a record of your electronic purchase, and

PRIVACY WATCH

Disable ActiveX Controls That Are Under Attack

THERE ARE LOTS of chinks in Windows' security armor, but undoubtedly among the biggest are the ActiveX controls used by Windows and Internet Explorer. These powerful bits of code, which can be as sophisticated as small applications, add functions such as file conversion and video playback to the Web pages you view. But they're also quite useful to baddies, who can employ them to break into your computer and force it to download spying programs or other types of malware.

Of late, evildoers have been finding ways to compromise ActiveX controls well in advance of Microsoft's fixes for the problems, meaning that even users who install patches immediately are sometimes at risk for weeks at a time. Recently, for instance, villains discovered that they could use an ActiveX control called ADODB.connection to hit computers with drive-by downloads of malicious software. Even PCs running the new IE 7 are vulnerable—and at press time, no fix existed.

There is one remaining way to protect yourself against an at-risk ActiveX vulnerability: Set a "kill bit" for it. By making a small change to the Registry, a kill bit prevents an ActiveX control from loading. If a vulnerable control isn't running when you stumble upon a malicious Web site, your PC's chances of getting hit with unwelcome software are drastically reduced.

To set a kill bit, you need to know an internal Windows code called the CLSID, which identifies the problematic ActiveX control. Security experts and organizations such as CERT (www.cert.org), the security research center at Carnegie Mellon University, often publish the CLSIDs of ActiveX controls that bad guys are actively exploiting. For instance, you can find the CLSID of ADODB.connection at find.pcworld.com/55972.

Once you have the CLSID, you can tweak your Registry to protect your PC from attacks aimed at that particular ActiveX control. For instructions, see find.pcworld.com/56004.

Be aware that setting a kill bit may disable useful functions in your browser, and may make it difficult to use some Web sites. You should restrict your use of kill bits to occasions when a serious ActiveX vulnerability has been made public, and no patch to fix the problem yet exists. Once a patch becomes available, you can delete the kill bit setting in the Registry—which will immediately reactivate the ActiveX control—and then update Internet Explorer at Microsoft Update.

—Andrew Brandt

ILLUSTRATION: MARK MATCHO

Sony recommends Windows® XP Professional.

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Arrive fashionably light.

SONY

VAIO

Sony® VAIO® TX. High style now coexists with cutting-edge technology. At a feathery 2.8 lbs[1], the TX was born to travel. Its wireless WAN technology lets you connect virtually anywhere Sprint's broadband network is available.[2] Thanks to a long battery life[3] and razor-thin design, it's a powerful business tool in the palm of your hands. The VAIO TX. Think of it as a well-deserved executive perk. ***sony.com/vaio-tx***

Sprint

Weights and measurements are approximate and may vary. Sprint Mobile Broadband Network reaches over 160 million people. Coverage not available everywhere. See coverage maps for details. Requires new activation and minimum two-year subscriber agreement. Credit approval and $200 early termination fee apply. Service defaults to Nationwide Sprint PCS Network where available. If Sprint Mobile Broadband Network is unavailable, not all features will work while roaming. Terms & Conditions and additional restrictions apply. May not be combinable with other offers. Actual battery life may vary based on product settings, usage patterns and environmental conditions. ©2007 Sony Electronics Inc. All rights reserved. Sony, Sony logo, VAIO, VAIO logo and like.no.other are trademarks of Sony. Windows is a registered trademark of Microsoft Corporation. Sprint and the Going Forward logo are trademarks of Sprint Nextel.

will it give you a replacement product key if you lose the original? Conversely, if you buy and register a shrink-wrapped package, will you be able to download a replacement program or get replacement disks if you lose your originals?

If the file isn't too large and a big manual isn't at stake, I generally go for the download. Who needs the media taking up valuable bookshelf space? I need that for actual books—that is, until I become a little more comfortable downloading electronic versions of them. ■

Yardena Arar is a senior editor, Andrew Brandt is a contributing editor, and Amber Bouman is an editorial assistant for PC World. *E-mail them at consumerwatch@pcworld.com, privacywatch@pcworld.com, or onyourside@pcworld.com. To read previously published* Consumer Watch, Privacy Watch, or On Your Side *columns, visit find.pcworld.com/31703, find.pcworld.com/31706, or find.pcworld.com/31709, respectively.*

ON YOUR SIDE

Snafus Delay Best Buy Rebate

SOME TIME AGO, I purchased a copy of Roxio Easy Media Creator 8—which was supposed to come with a $20 rebate for people upgrading from earlier versions—from Best Buy. I mailed the rebate forms, rebate receipt, and proof of prior ownership to the appropriate address.

A month later, I called the Best Buy rebate number. The representative told me I had to contact Roxio. When I called Roxio, however, a recording told me to punch in my phone number, and then said that my phone number is not on file. I could not talk to a human, but was told to go to www.rebatehq.com. When I did so, I could not find any details on the status of my rebate there.

Ron Niemi, El Dorado Hills, California

***On Your Side* responds:** The Roxio representative we spoke to said first that Niemi's rebate had been misfiled, then that Niemi had entered the wrong phone number in its system. He added that the site Niemi visited, www.rebatehq.com, was incorrect; the correct site URL is www.rebateshq.com. Best Buy told us that it sent Mr. Niemi his $20 rebate check directly. The retailer also said that it is phasing out mail-in rebates because of problems such as this one. (Best Buy announced a two-year phase-out plan in April 2005.)

You can avoid some rebate hassles by keeping a photocopy of every item that you send in, and by sending the rebate request via certified mail.

—Amber Bouman

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the
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...are you?

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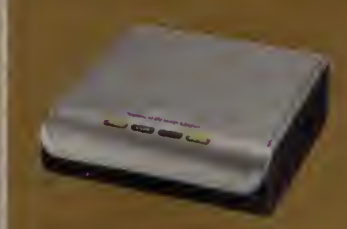

◀ HomePlug AV Ethernet Bridge
PLA-400

◀ Digital Media Player for Streaming Hi-Def Multimedia content
DMA-1000

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Samsung's Four Seasons of Hope

Please join Samsung's Four Seasons of Hope to help the children.

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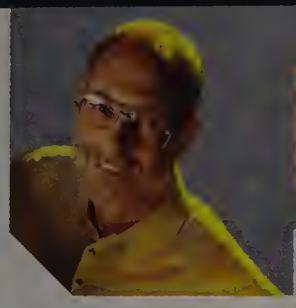
SAMSUNG



HASSLE-FREE PC

STEVE BASS

Top Tips for a Cleaner, Faster Computer

Dirt and dust can damage your rig and hurt its performance. Fight back!

IT'S STILL A few months until you begin spring cleaning, but if your PC's insides are dirty, that could make for a sluggish system. Here's how to whip things into shape.

The Hassle: *My PC overheats (the motherboard monitor beeps) toward the end of the evening, even though my home-office temperature is cool.*

The Fix(es): I'll lay odds that your computer's case is full of dirt, dust, and other crud. If you have a pet, the system is likely to be loaded with hair, too. Another bet: Your PC sits on the floor, under your desk, gathering dust. Here's what to do.

Before opening the case, unplug everything—power cord, phone line, cable modem, and ethernet cables. After opening the case, touch the power supply to discharge any static and to ensure that you and the inside of your PC are at the same voltage. (Repeat this process every time you touch the PC's innards.)

Start by removing the foam filters, if your PC has any, on the fan vents. Gently clean the filters in a mild solution of dish soap and cool water, and let them dry before putting them back into place. (Better still: Buy a foam air-conditioner filter, cut it to size, and replace all of the filters.)

Remove large clots of dust by vacuuming the fan vents from the outside of the case. However, be very cautious about vacuuming inside the case. Don't touch the motherboard or any add-in cards. At most, just suck away the dust that is lying on the base of your tower and on the bottoms of the system's empty drive bays. And avoid using brushes on components.

Alternatively, if the weather is dry and not too cold, carry the PC outdoors, and bring along a can of compressed air. I bought a can that had a foot-long hose attached; you can also buy tubing at a hobby store. The hose is perfect for clearing away dust throughout the case. It lets you hold the air can upright, as well; spraying the can at a tilt causes a wasteful blast of icy liquid propellant, and the resulting temperature change can damage components.

You may be tempted to spin the fan blades of the CPU's heat sink with a gust of air to clean them, but don't. The fan can't take the high rpm's. I know—I ruined one. Your best bet is to hold the fan and then blow with the air. Next, use a cotton swab with a weak alcohol solution to finish cleaning each blade. Carefully blowing the dust from between the blades of the heat sinks is even more important than cleaning the fan. Place the nozzle between the fan blades and along the open sides of the heat sink until no more dust flies out. Do *not* use an air compressor (like the kind you use to fill your tires at a gas station)—they often contain a mix of oil and water.

Finally, put your PC on rollers. Raising your computer off the floor, even just 6 inches, will reduce the amount of dust that gets sucked into the fan vents. I use a small furniture dolly, available at hardware and home appliance stores. ■

Contributing Editor Steve Bass writes the Tips & Tweaks blog (find.pcworld.com/50264) and is the author of PC Annoyances, published by O'Reilly (find.pcworld.com/43818). Contact him at hasslefreepc@pcworld.com. To read his previous columns and newsletters, go to find.pcworld.com/50268.

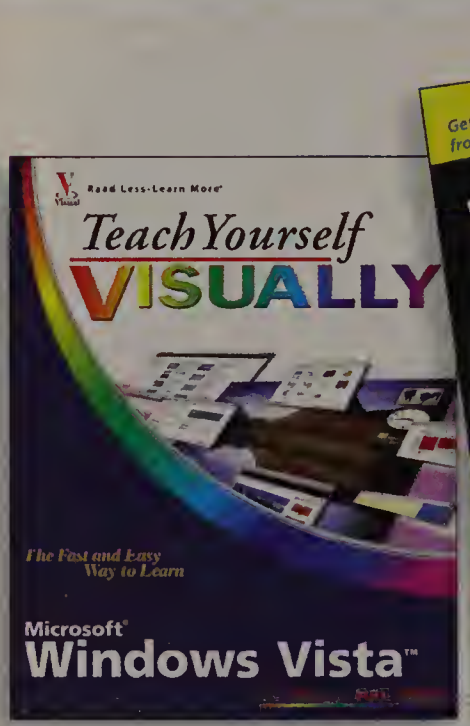
TOOL OF THE MONTH

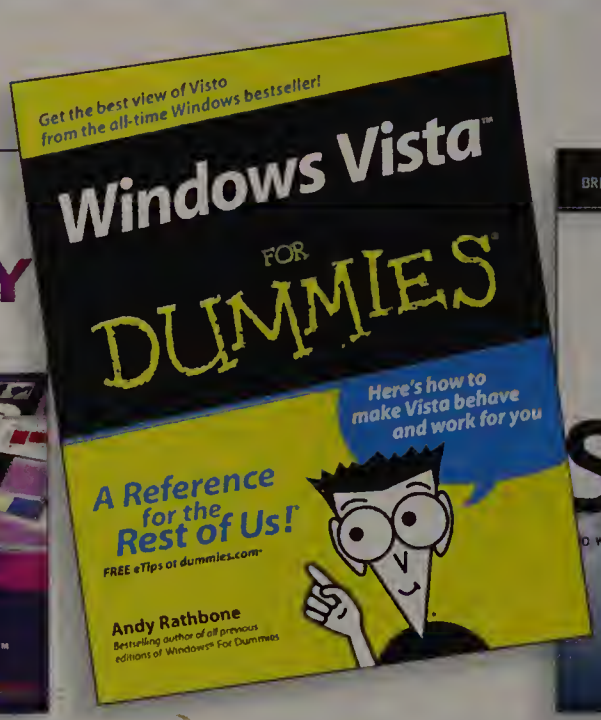
Heat-Monitoring Apps Protect Your PC

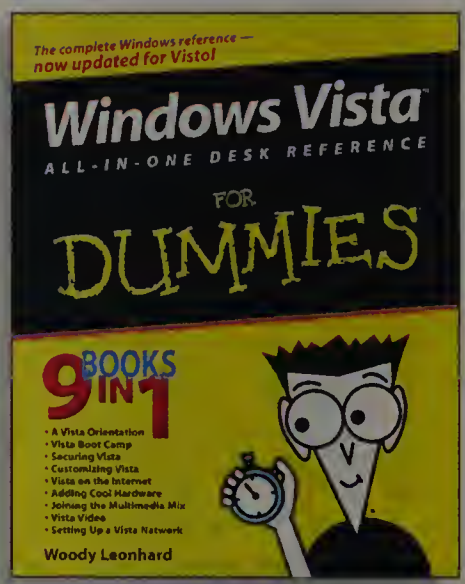
OVERHEATING IS A sure sign your PC is dirty. But unless you have a tool to monitor your CPU, you won't have a clue if the system is nearing a meltdown. Here are a couple of programs I like. If one doesn't work, try the other. SpeedFan watches data collected by the system—the temperature and the fan rpm rate. This freebie displays the info in the PC's system tray and can sound an alarm or send a warning e-mail to you or someone else (not me, please). Get it at find.pcworld.com/55716, and read the guide at find.pcworld.com/55718. If you have an Intel motherboard, try Intel Active Monitor (find.pcworld.com/55719). Not sure of your motherboard's brand? Get CPU-Z (at find.pcworld.com/55717).

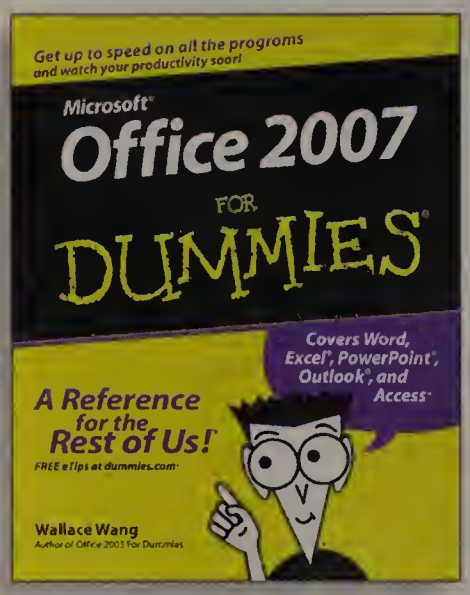
ILLUSTRATION: RICHARD DOWNS

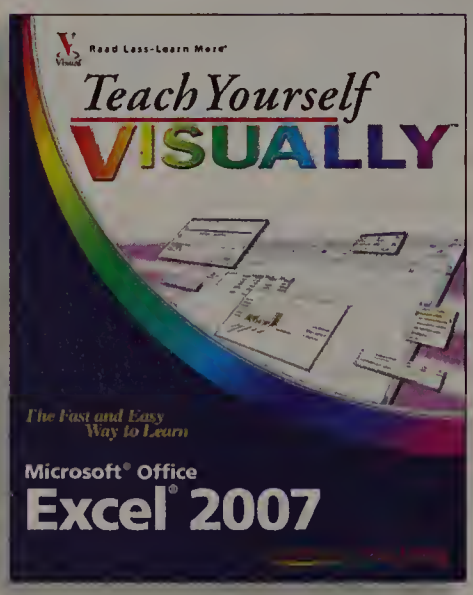
So much to learn, so many ways.

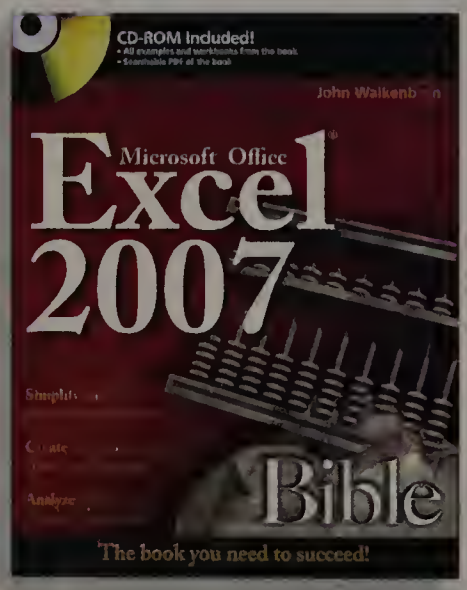


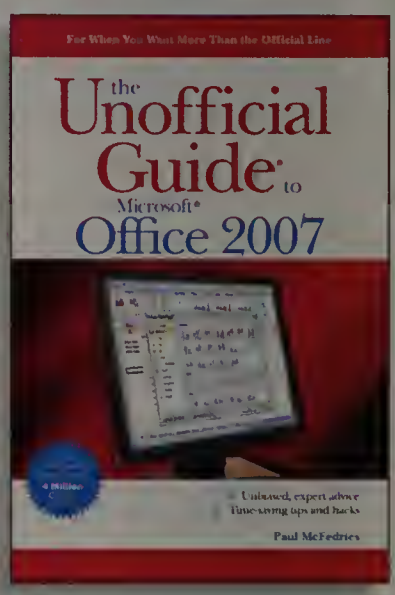












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GADGET FREAK

DAN TYNAN

Trials of a Quasi-Connected Traveler

Want to wander overseas without going off the grid? Best of luck to you.

WE WERE SITTING in a charming little pub in Ennis, County Clare, Ireland. As the band cranked through bad covers of American pop tunes, we sipped Guinness, checked e-mail on our laptops, made cheap Skype calls to friends halfway around the world, and IM-ed with reckless abandon. We had discovered Web nirvana.

When we visited Ireland last fall, we knew we'd find beautiful countryside, friendly people, and fine beer. The question was whether we'd be able to bring our Internet lifestyle along for the ride. Unfortunately, our experience at the pub was the exception, not the rule. Even in high-tech meccas (and Ireland is rapidly becoming one), the Internet isn't always easy to find—and when you do, it ain't cheap.

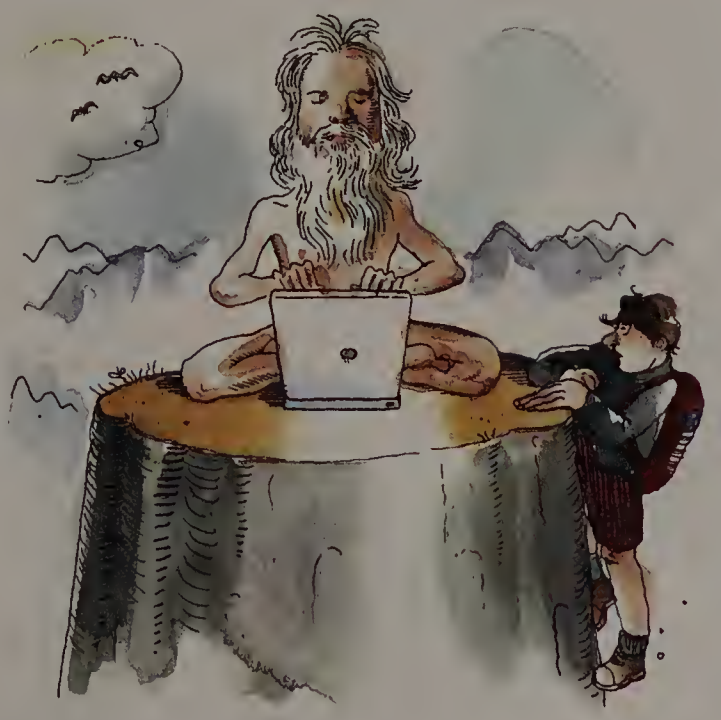
ROAMIN' LEGIONS

IN THE UNITED STATES, wireless hotspots are common and many are free. Overseas, we learned that merely using the term "Wi-Fi" can get you tagged as a crazy American, and open networks were harder to find than leprechauns.

The most common Irish hotspots are operated by British Telecom's BTzone. For $6 an hour (or $12 for 24 hours) you get a card containing a user ID and a password for logging on to the network. But the connections were often slow. Jonesing for my favorite HBO shows, I tried to access my TiVo via the Net using the Slingbox AV ($180, www.slingmedia.com), but the picture was too jumpy.

Out of curiosity, I also wandered around quaint little villages clicking my thumb-drive Linksys Wi-Fi Finder ($79, www.linksys.com), looking for unsecured home networks (and cementing my reputation as a crazy American). I found only one, in the heart of Galway. Even the thankfully few McDonald's and Starbucks outlets lacked the Wi-Fi nets that you will often come across in the States.

Our other wireless option, cell networks, proved challenging in different ways. If your carrier has an international roaming plan and you own a GSM phone, you can use your handset to make calls across the pond. (Otherwise, your best recourse is to buy a cheap phone over there and chuck it before you return.) And many cell phones can connect to your laptop and work as a modem. The downside? Slow speeds and high costs.



For example, I hooked a Cingular 3125 Windows Mobile phone ($150 with a two-year plan, www.cingular.com/3125) to my notebook and connected via Cingular's GPRS network (230 kbps maximum speed). But with roaming charges of 99 cents per minute, the cost would quickly send me to the poorhouse. Roaming charges and access to data networks vary widely by country, but the service is never cheap, so we reserved the cell phone modem strictly for emergencies. If you think you'll have to use this type of service, make sure to set your e-mail client/server to hold large messages and try to visit sites specially designed for handhelds to curb your costs.

GETTING CARDED

IF WE'D BEEN traveling for more than a few weeks, I'd have opted for a wireless access card with a data plan (most likely from one of the European mobile operators to avoid onerous roaming charges). Major U.S. carriers sell wireless cards for around $50 with a two-year plan; unlimited data plans range from $50 to $80 a month. But beware of how some carriers define "unlimited." For example, Verizon Wireless's plan (www.verizonwireless.com/bba) prohibits streaming audio or video, using Webcams, accessing peer-to-peer networks, and downloading more than 5GB of data per month. Read the fine print before signing up.

More often than not we found ourselves in crowded Internet cafés, paying $4 to $8 an hour for spotty connections on aging terminals. Still, as 3G cell networks and metro-area WiMax spread, eventually we'll all be enveloped by a cloud of seamless high-speed connectivity. Not this year or even the next, but someday.

I'll drink to that. ■

Contributing Editor Dan Tynan is the author of Computer Privacy Annoyances *(O'Reilly Media, 2005). You can send him e-mail at gadgetfreak@pcworld.com.*

ILLUSTRATION: BARRY BLITT

www.trendnet.com

skyp·ing (v.)

1. the act of making a free telephone call over the Internet using Skype™. (e.g. Skyping with TRENDnet's Conference Phone Kit makes long distance collaboration with partners and co-workers simple and affordable.)

ClearSky™ Bluetooth® VoIP Conference Phone Kit (for Skype™)
TVP-SP4BK

ClearSky™ Bluetooth® VoIP Phone Kit (for Skype™)
TVP-SP1BK

ClearLink™ VoIP USB Speakerphone (for Skype™)
TVP-SP2

ClearLink™ VoIP USB Phone (for Skype™)
TVP-SP3

ClearLink™ VoIP USB Phone Adapter (for Skype™)
TVP-SP5G

The distinctively designed Skype™ conference phone kit is the first product to enable hands-free voice conferencing for small businesses anywhere in the office using a wireless Bluetooth® connection. Bundled with Vapp's® free High Speed Conferencing™ service, small businesses can now create conference calls for free with up to 500 users using Skype™ or regular landline phones. TRENDnet's complete line of Skype™ specific products make expensive long distance phone bills a thing of the past.

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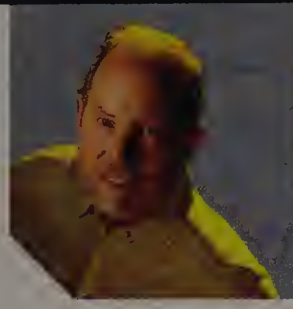

BUGS & FIXES

STUART J. JOHNSTON

Windows, IE Animations Run Amok

Plus: Good-bye to Firefox 1.5 support; software incompatibilities with IE 7.

MICROSOFT'S "CUTE" animations, like the infamous Office Clippy, have aroused more ire than grateful praise, but they didn't actually do any harm—until now. The part of Windows behind the animated yellow dog helper in Windows search, called Microsoft Agent, gives malicious hackers a route into your PC for spyware or viruses transmitted via a drive-by download.

Agent can also be used by third-party programs for their own help functions. Clippy himself isn't a risk, but a flaw in the Agent ActiveX control that Internet Explorer 6 uses under Windows XP SP2 and Windows 2000 SP4 means the browser can be overwhelmed by a booby-trapped Agent file (.acf). If you browse a poisoned site that hosts such a file, the ActiveX control will crash, thereby opening the door to an attack program—and you don't need to click on any of the page's content.

IE 7 isn't vulnerable to this flaw; to protect yourself, upgrade your browser or download the critical patch from Microsoft through Automatic Updates. You can also get it

Hapless Agent 'helpers' open the door to your computer.

and more info at find.pcworld.com/55809. At press time we had not seen any reports of active attacks using this hole.

Clippy's cousins aren't the only pieces of old-school animation coming back to haunt users. Two dangerous IE 6 flaws in Microsoft DirectAnimation were hit with zero-day attacks before Microsoft released a patch. Although DirectAnimation has been superseded by DirectX for showing animations in the browser, it remains in IE—a little like people's tailbones.

Again, if you just view a doctored Web page, you'll be hit by a drive-by download. An attack crashes the DirectAnimation ActiveX controls, and can let a bad guy do anything on your PC that you can do.

You can now get the patch for IE 6, a fix that basically shuts down the unnecessary DirectAnimation for good. If you don't already have the patch, download it at find.pcworld.com/55810.

IE 7 UPDATE GOTCHAS

AS WITH THE Agent bug, IE 7 is safe from this flaw, and the new browser is a good security upgrade. But some typical update glitches have surfaced. Owners of HP printers, scanners, and all-in-one units have discovered that the popular HP Director image management program doesn't display properly with IE 7. HP's fix should be available at find.pcworld.com/55821 by the time you read this.

QuickBooks 2004 and 2005 are likewise incompatible with IE 7. Browser-based features such as Help and Payroll don't function with the new browser. On its Web site, Intuit says that it is working on a patch for the 2005 version but notes that in the meantime you'll need to revert to IE 6. A patch for the 2004 version may not be forthcoming.

In this case, we can't fault Microsoft. IE 7 was available as a beta for company testing for a long while—so HP and Intuit should have taken care of these compatibility problems before now. ■

Stuart J. Johnston is a contributing editor for PC World. *Visit find.pcworld.com/31580 to see more* Bugs and Fixes *columns.*

MOZILLA ENDING FIREFOX 1.5 SUPPORT

YOU NOW HAVE a deadline to upgrade your browser: Mozilla announced that it won't release any patches for Firefox 1.5 after April 24, 2007. That's a fast end-of-life given that Firefox 2.0 came out only at the end of October.

The update to version 2 is relatively painless, though, and you'll want to make sure you can keep getting patches. Mozilla just closed critical holes in Firefox 1.0 and 1.5, in its Thunderbird e-mail software, and in the SeaMonkey applications suite—all share the same problematic code. Move to the newest versions using the programs' built-in automatic upgrades, or get the latest downloads at find.pcworld.com/55820.

IN BRIEF

A Month of Bugs

EXPECT MORE BUG disclosures than ever: Hackers embarked on an escapade to find and publicize one new bug in kernels (the heart of operating systems) every day during November. Online attackers had a months-long romp creating exploits for browser bugs published in a similar project last summer. For a peek at what's in store this time, check out find.pcworld.com/55813.

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REVIEWS & RANKINGS

EDITED BY NARASU REBBAPRAGADA AND MELISSA J. PERENSON

REVIEWS

58 ALIENWARE AREA-51 7500, DELL XPS 710, GATEWAY FX530XT
60 CANON POWERSHOT G7
60 APPLE IPOD SHUFFLE 1GB
61 MCAFEE SITEADVISOR PLUS, SYMANTEC NORTON CONFIDENTIAL

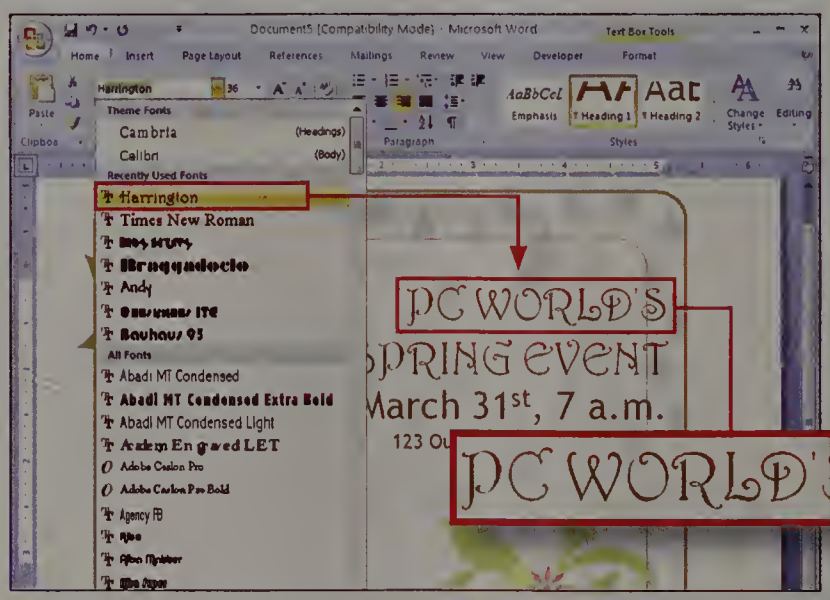
Microsoft Office 2007: A Worthy Upgrade

This redesigned productivity suite is powerful and full featured, once you get used to the changes.

OFFICE SUITE

IF YOU'VE FOLLOWED Microsoft Office through its succession of lackluster upgrades in recent years, you might be excused for yawning at the prospect of the 2007 version. Well, wake up: The 2007 Office System is easily the most compelling Office upgrade we've seen in recent years, although the 2007 apps do impose a more-demanding learning curve than their predecessors did.

We've given PCW Ratings to the suite as a whole and to the core programs—Word, Excel, PowerPoint, and Outlook. In determining the suite's PCW Rating, we used the $399 price of Microsoft Office Standard 2007, which comprises these four applications. In calculating the individual apps' PCW Ratings, we assumed that buyers would purchase them in a suite, so we didn't use their stand-alone prices.



MICROSOFT OFFICE 2007'S live preview lets you quickly try out formatting options. Here in Word 2007, hovering over the Harrington font gives you an on-the-fly peek at how selected text would look.

Microsoft has unveiled eight versions of Office 2007. (For details about the elements that each one contains, see "Meet the Suites," page 51.) Network-connected workers will find that some versions provide more tools than ever, including the new Office Groove collaboration app, plus support for wikis and blog posts. Such features become more useful for enterprises that invest in Office server products, like SharePoint Server or Groove Server. For more on Office 2007 server applications, visit Microsoft's Office Online site (find.pcworld.com/56026).

Office Standard 2007
Microsoft
PCW Rating 85 Very Good
Significant revamp provides more applications and many design improvements, though these take time to learn.
List: $399 ($239 upgrade)
find.pcworld.com/56020

A WHOLE NEW LOOK

THE SWEEPING design innovations in Office 2007 can be a bit unsettling. Instead of depending on myriad cascading text menus and skinny taskbars, the new Office arranges for most of the action to take place in a fat band or "ribbon." Appearing where the taskbars used to be, it graphically displays features that change as you click the menu-bar tabs.

You may have to scramble to find the new locations of familiar options (Microsoft provides extensive online help), but the ribbon may also expose you to tools and commands that you never knew existed. In addition it supports a useful new feature called live preview: Select all or a portion of your document and hover your mouse over a formatting option (a new font, for example), and you'll see how it changes the actual document's appearance. If you like the way it looks, click to apply the change. This feature makes experimenting with style changes easy and fun; and it's useful for making your documents look their best.

In case you miss having a set of frequently used commands always at hand, the Quick

62 TOSHIBA TDP-ET20U
62 SAMSUNG SGH-T719
68 REPLAYTV PC EDITION
72 ASUS R2H, SAMSUNG Q1B
74 PHAROS DRIVE GPS 140
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60

60

Launch toolbar gives you a place to pin commands from any of the application's ribbons. The design isn't perfect: I miss being able to add boilerplate text with a single mouse click on one of the AutoText toolbar buttons I created. But by default, the Quick Launch toolbar includes some highly useful commands, including Undo and Save buttons.

XML MARKS THE SPOT

THE APPS WE reviewed have new XML-based default file formats for Word, Excel, and PowerPoint. Collectively called Open XML, they carry different file extensions (.docx, .xlsx, and .pptx) from their predecessors' (.doc, .xls, and .ppt).

The Open XML formats sort the various components of a document—content, formatting, comments, and so on—into different files that the software then zips into a single Open XML file. Using compression makes files smaller; separating content from other attributes enables you to alter those attributes without modifying the content. For example, a corporate user might decide to change the look of a series of documents by swapping out the formatting files.

Rival productivity applications should eventually be able to duplicate and work with Office documents, which are based on an open spec.

The Open XML formats will irritate people who don't have the 2007 versions of these applications and receive documents from people who do. Microsoft has tried to minimize the pain by quietly shipping Office 2007 awareness patches to Office XP and 2003 users who keep their suite current—by using Windows Update, for example. The patches are intended to alert users to the 2007 Office Compatibility Pack (find.pcworld.com/56018), a free, 27MB download that Office XP and 2003 users can install in order to open, edit, and save files to the new Open XML format.

For users of older versions of Office and other productivity suites, the compatibility pack allows conversion of Open XML files to Office 97 to 2003 formats. See "Using New Microsoft Office 2007 Files With Older Office Suites" at find.pcworld.com/55781 for more information.

In the end, you may decide that your current productivity apps are all you need. But if you'd like to get the most out of Office applications, this upgrade can help you do it.

—Yardena Arar ▶

OFFICE OPTIONS

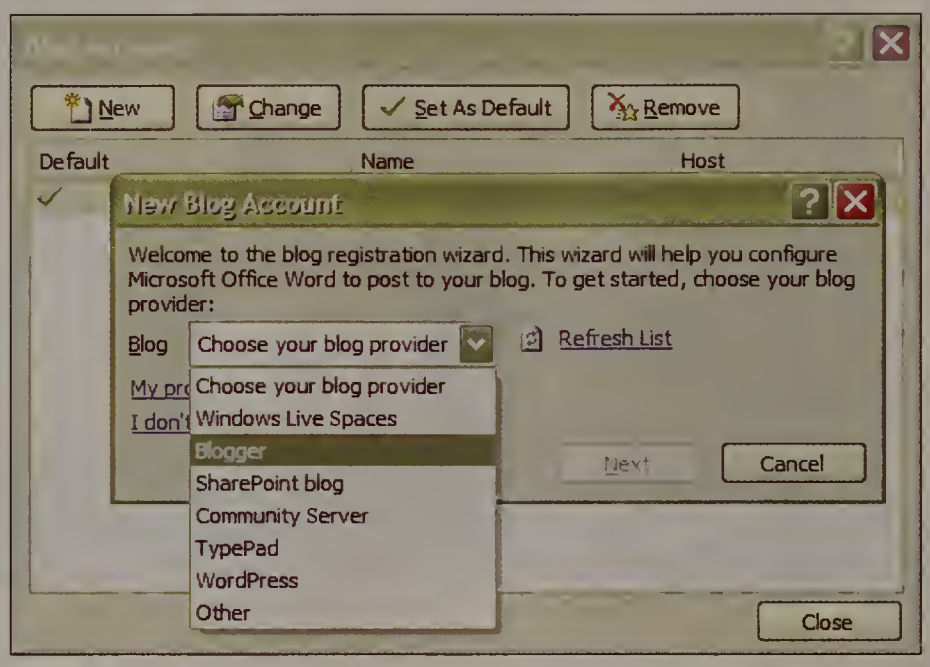
Meet the Suites

OF THE EIGHT different Office 2007 suite configurations that Microsoft offers, five are sold in stores. The cheapest retail suite is the Home and Student 2007 edition ($149), which includes Word, Excel, PowerPoint, and the OneNote note-taking application. Next up is the $399 Office Standard 2007 edition reviewed here; it substitutes Outlook for OneNote. The Small Business 2007 edition ($449) swaps out OneNote in favor of the Publisher desktop publishing application and adds Outlook with Business Contact Manager. The Professional 2007 edition ($499) adds the Access database program to the Small Business lineup, and the Office Ultimate 2007 edition ($679) introduces a whole slew of other business-focused titles such as the Groove 2007 collaboration application.

Microsoft will also release three versions of the suite not for retail sale: Basic 2007 (with just Word, Excel, and Outlook) will ship on new PCs; Professional Plus 2007 and Enterprise 2007 will be available only to enterprise customers. Microsoft offers substantial upgrade discounts for people who currently use practically any recent Office program or Works suite. See find.pcworld.com/55814 for more pricing and upgrade details.

–Yardena Arar and Narasu Rebbapragada

WORD 2007



WORD 2007 LETS you easily create, edit, and publish blog posts using major blogging services; custom settings let you use other blogging options too.

MICROSOFT WORD is the most widely used application in the Office suite, so the major interface changes will likely affect most Office users. How you feel about these changes will depend on how fast you complete the unavoidable relearning curve. But ultimately, Word 2007's well-executed Help structure—along with its legion of worthwhile formatting, collaboration, and integrated online tools—make the app a welcome upgrade.

In Word 2007, the ribbon toolbar does enhance productivity once you figure out where its predecessor's various commands have been relocated. For example, Drop Cap resided intuitively within the Format menu in Word 2003, but it appears on the Insert toolbar in 2007. To aid Word veterans in finding itinerant commands, Microsoft has posted the indispensable (but online-only) Interactive Word 2003 to Word 2007 Command Reference Guide (find.pcworld.com/56019); similar guides exist for PowerPoint and Excel. Without the guide, hunting for Drop Cap would be a lot like engaging in an impromptu game of Where's Waldo. The program's extensive interactive online help (like its limited offline help) is heavily laden with screen shots and video, so you'll need a broadband connection to use it.

The ribbon's Mailings tab improves on the formerly arcane mail-merge process by walking you through the process of choosing a project, selecting message recipients (whose address data you can import from Outlook), and writing and inserting mail-merge fields.

> **"With the move to Word 2007, [users] will be able to export data directly... inside a preformatted report document."**
>
> *–Bill Coan, Office 2007 user*

Office 2007's other design improvements work nicely in this program. Word themes—which set colors, fonts (including options for headings and body text), and effects (such as lines and fills)—employ the suite's live preview feature to full advantage. Highlighting text in your document brings up a shadow toolbar that is composed of formatting functions; unfortunately, if you select a formatting option here, you won't be able to see an on-the-fly preview.

Microsoft unmistakably designed Office 2007 with the Internet in mind, and you'll need to go online to take advantage of some of the suite's features. Selecting *New•Blank Document* from the Office button menu brings up a panel that offers a copious array of templates (invoices, business cards, flyers, and so on), most of them located at Microsoft Office Online. If you highlight a word in your document while pressing the <Alt> key, Word will search the Web to find references, definitions, and more. If you use one of six major blog services (such as Blogger), you can create, publish, and update blog entries directly from Word by typing in your account name and password; if you use a different method of linking to your destination, you can do the same things after entering a little more information (such as blog feed format and URL). Clicking *Publish* from the Office button menu will send your document to a blog, Web site, or document server.

Microsoft has packed Word 2007 with a bounty of old and new features, commands, and tools—and thanks to the new interface, you might actually find and use them. The improved formatting and page layout functions, along with the tight integration of Web functions, are reason enough to upgrade to Office 2007. Of course, Word 2007's price ($229 as a stand-alone, though many will buy it as part of a suite) and its migration issues with previous versions might give some upgraders pause. But the software's productivity-enhancing improvements are enough to overcome these drawbacks.

—Michael S. Lasky

Word 2007
Microsoft
PCW Rating 89 Very Good
Office's ribbon and live preview features integrate well; some help and document templates are online-only.
List: $229 ($110 upgrade)

EXCEL 2007

EXCEL 2007 INCLUDES major changes under the hood. For a decade, Excel users have been stuck with the same limits on spreadsheet size: 65,536 rows and 256 columns. Excel 2007 blows past these limits to offer 1,048,576 rows and 16,384 columns—enough to permit users to crunch data from a gigantic relational database that a SQL Server might use.

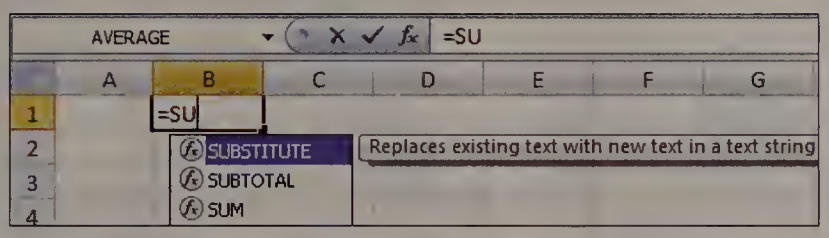
The new limits aren't the only tune-ups. Excel now accommodates lengthier text values in cells, allows formulas with more layers, and can

Excel 2007
Microsoft
PCW Rating 89 Very Good
This redesigned spreadsheet program beefs up graphics and harnesses the processing power of dual-core CPUs.
List: $229 ($110 upgrade)

divide calculations among cores in a multicore CPU (if available) to perform complex calculations even faster. All of these improvements will keep demanding number crunchers happy, but they probably won't make much difference to a typical home user who doesn't need the power.

Chart formatting takes a dramatic jump into the future. If you're not graphically inclined, pick from preset styles to get harmonious color combinations and effects such as shadows, beveled edges, and three-dimensional shapes. Excel 2007 adds no new chart types, however; for years Excel users have been requesting that Microsoft include box charts and other popular chart varieties, to no avail.

Easily the most improved Excel feature is conditional formatting, which lets you add formatting to values that meet certain criteria. When you create a conditional formatting rule (such as "display all the prices over $100 with a red background"), Excel will automatically apply it to all of the cells you specify. Though conditional formatting has been in Excel for many years, using it was too much of a hassle for most people.



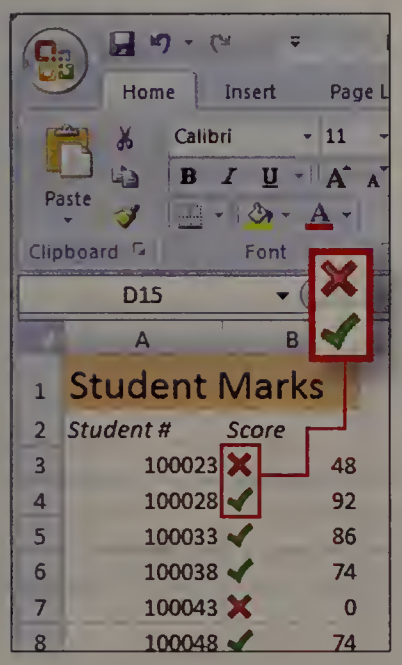
EXCEL 2007'S ENHANCED Formula AutoComplete feature offers suggestions as you type, enabling you to find formulas quickly.

In Excel 2007, the feature is easier to use; in many instances you can choose a preset option right out of the ribbon. It's more powerful, too, allowing you to mix and match formatting rules to your heart's content (previously there was a limit). The real excitement in conditional formatting, however, comes from two new features: data bars and icon sets. Data bars let you add a shaded bar behind every cell you identify—the bigger the number, the bigger the bar. Icon sets insert different icons (tiny pictures) next to various numbers. If you are creating a grading spreadsheet, for example, you can tell Excel to give failing scores a red X and passing scores a green check mark, so you can distinguish between them at a glance. You're limited to the icon sets included with Excel, but luckily they're quite good.

Excel also packs in a large number of relatively minor refinements, including a better Formula AutoComplete, which works with functions (number-processing tools in Excel that examine some data you supply, and then perform a calculation and provide the result). Formula AutoComplete has always been capable of informing you about the data you need to supply for a function, but now it can go further and suggest possible function names and named ranges on your worksheet as you type in a few letters. This small improvement will save people who use Excel day in and day out a lot of time.

Excel 2007 seems sure to remain king of the spreadsheet world, and it's not cheap at the top. Excel costs $229 as a stand-alone application ($110 as an upgrade). But if you create spreadsheets regularly or if you're a current Excel user, this is an improved version you'll want to consider.

—Matthew MacDonald



EXCEL 2007 LETS you attach small icons to conditionally formatted cells to help you visually sort through data.

POWERPOINT 2007

POWERPOINT 2007 benefits hugely from Office 2007's highly visual ribbon interface and new design tools. There's still room for improvement, but the new elements add up to the meatiest PowerPoint update in many years.

PowerPoint 2007's new themes improve markedly on PowerPoint 2003's cheesy templates. Themes include preset color choices to prevent you from creating ugly presentations; you can also modify the colors and layout of a theme, and then save for later use. Since themes and color selections are also available in Word and Excel, you can apply a consistent look across all your Office 2007 documents.

> "We can finally adjust [PowerPoint's] character spacing and specify separate colors for text fills and outlines."
>
> *–Julie Terberg, Office 2007 user*

Also new (and available in Word and Excel, too) is SmartArt, a drawing tool for creating graphics that illustrate relationships—organizational charts, pyramids, and cycles, for example. You can add and style SmartArt elements with a few clicks, and you would have to make a real effort to produce a graphic that didn't look polished.

You can apply PowerPoint 2007's improved effects—which include drop shadows, perspective, and beveling—to text and graphics (including charts and SmartArt) directly from the ribbon. In virtually every case, you can preview how the proposed change will affect your presentation.

PowerPoint 2007 includes some worthwhile nondesign improvements, too. Tables, which have long been a headache to work with, are now easy to style; and the task of moving data between Excel and PowerPoint, with formatting, is finally the cakewalk it should have been all along.

Dual-monitor support is more sophisticated as well, allowing you to blank out ▶

PowerPoint 2007

Microsoft

PCW Rating 87 Very Good

This presentation graphics software looks great and is easy to use, though it could use a bit more multimedia panache.

List: $229 ($110 upgrade)

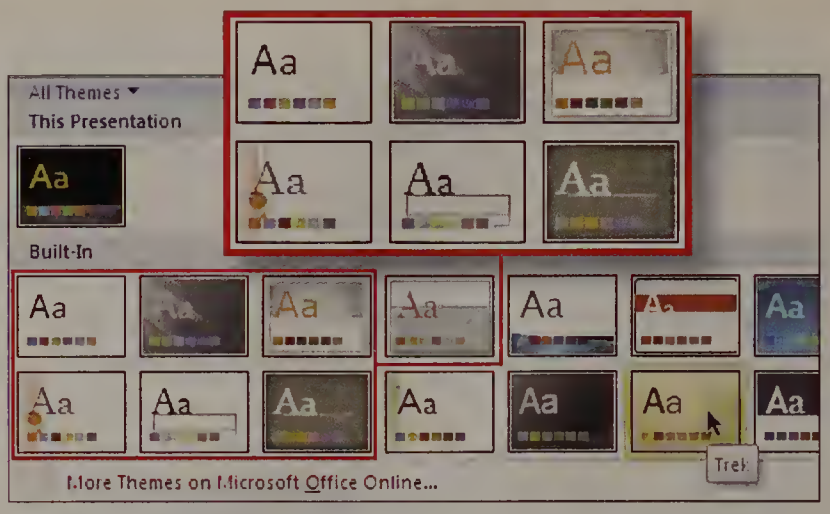
the presentation display if you need to do something on your laptop that you don't want projected to your audience.

PowerPoint's new look sets the bar so high that the few weak spots in the interface are downright jarring. One of these involves the new charting engine, which produces much handsomer graphics than earlier versions but employs a chart type selector that hides your slides and doesn't offer a live preview of results.

Cutting-edge presenters may be disappointed that features for adding video, audio, animation, and transitions to a presentation remain pretty basic. And output destined for the Web still looks so shabby in non-Microsoft browsers that Firefox and Safari users who try to open your presentations will get a message warning them that the content may not show properly. (PowerPoint 2003's ability to broadcast presentations over the Internet is gone altogether, but it never worked very well anyway.)

Despite these flaws, PowerPoint 2007 is a winner already; if you're using any previous version and care about how your presentations look, you need this updated version.

—Harry McCracken



POWERPOINT 2007'S THEMES are a cut above 2003's dowdy templates, and they're coordinated with styles in Word and Excel.

OUTLOOK 2007

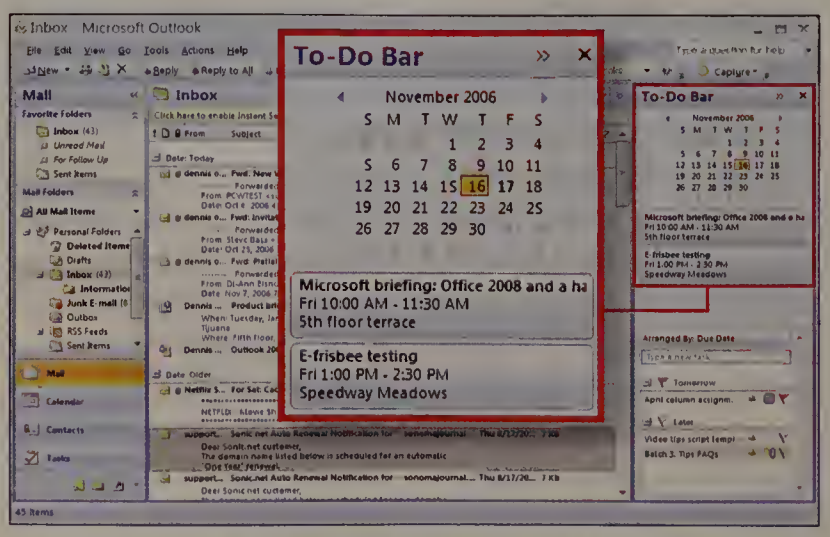
OUTLOOK 2007 amounts to a touch-up rather than a retooling, despite its appealing interface enhancements. Also, I experienced a few glitches when trying to integrate Outlook with non-Microsoft programs and protocols.

The sleek ribbon interface makes the task of composing messages like using a word processor, and the on-the-fly formatting menu that appears when you highlight an item is nice. The new To-Do Bar provides a snapshot of calendar appointments for the day and gives a quick summary of your most pressing tasks. To open it, you have to double-click a task or calendar entry.

> "I am using Outlook and Word on a daily ongoing basis. I like [Outlook's] integrated 'Search' and 'To-Do' functions."
>
> *–Joh from the PCWorld.com Forums*

I imported mail, contacts, the calendar, and tasks from Outlook 2003 without a hitch, but I hit a snag when the program asked me to install the Instant Search component, which integrates the Windows Desktop Search engine into the Outlook interface. First, Windows Genuine Advantage had to validate my computer. Then I couldn't install the app because Terminal Services were not active. (For more about that, see find.pcworld.com/55779.) In the end, I didn't gain much from Instant Search because in the past I could search through Outlook 2003 using the Windows Desktop Search box located next to my system tray.

In Outlook 2007 you can preview image, text, and other files before opening them; I could not, however, preview a PDF file. Microsoft will not ship a PDF previewer for Outlook but it expects that third-party vendors will create one.



SEE YOUR UPCOMING appointments and task deadlines in the new To-Do Bar on the right side of the Outlook 2007 inbox.

ONLINE

YOU CAN READ a more-detailed series of reviews of the Office 2007 suite and core applications (including Access 2007) at find.pcworld.com/55780.

One final glitch: The first time that Outlook 2007 tried to import mail from my Gmail account, it failed; and I had to open the Account Settings and click *Repair*. Afterward, the procedure worked just fine.

Outlook 2007 offers tangible improvements, but the program remains much the same as its predecessor. As e-mail, instant messaging, and other forms of communication become increasingly enmeshed, most of us will need programs that can link easily to different types of networks. Unfortunately, though, when it comes to accessibility, Outlook 2007 remains very much an outpost in the Microsoft gulag.

—Dennis O'Reilly

Yardena Arar and Narasu Rebbapragada are senior editors, Dennis O'Reilly is a senior associate editor, and Harry McCracken is editor in chief of PC World. *Michael S. Lasky is a freelance writer and PC consultant based in San Francisco. Matthew MacDonald is the author of* Access 2007: The Missing Manual and Excel 2007: The Missing Manual *(O'Reilly Media).*

Outlook 2007

Microsoft

PCW Rating 81 **Very Good**

Microsoft's revised e-mail program offers design improvements but doesn't interface well with other communication programs.

List: $110 (no upgrade price)

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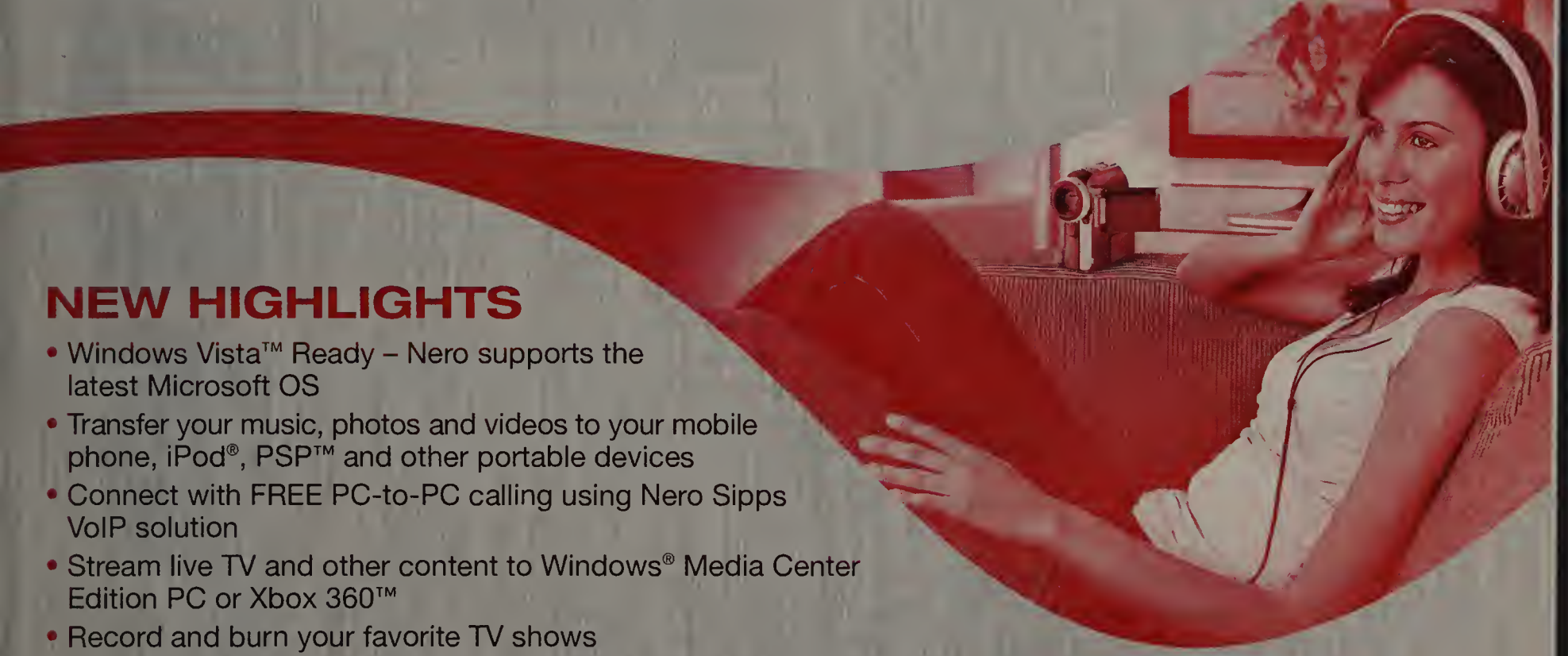

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Toolbar Review

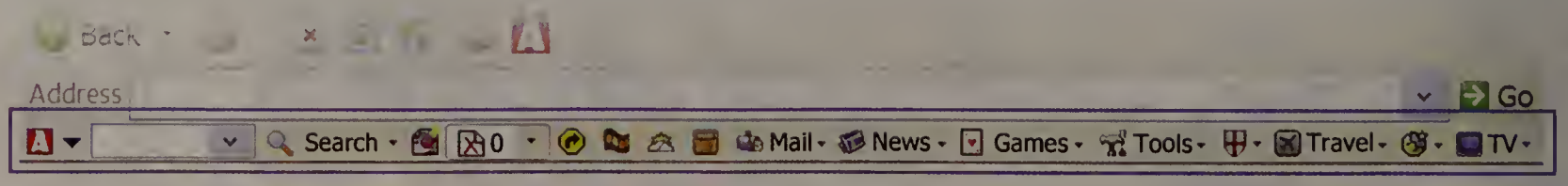
There has never been a better time to use a toolbar with your Internet browser. Toolbars can provide users with numerous features such as Pop-up Blocking, Driving Directions, Adult Content Filtering, Security Features, Spyware Detection, Games and more. Toolbars are a convenient and powerful addition to your browser, making it easier than ever to navigate the Internet.

The comparison chart below will help you decide which toolbar is right for you.

Toolbar Comparison Chart

Toolbar Features:	Advanced Toolbar	Google	YAHOO!	msn
Search Engines	100+	1	1	1
Search Tabs	✓			
Blocks Pop-Up Ads	✓	✓	✓	✓
Calendar Application	✓			
RSS News Reader w/Ticker	✓			
Auto Form Filler	✓	✓		✓
Adult Content Blocker	✓			
Spyware Remover	✓		✓	
Homepage Protector	✓			
Browser Tracks Eraser/Cleaner	✓			
File Shredder	✓			
Add Buttons for Software	✓			
Add Buttons for Webpages	✓	✓	✓	
Screensaver Launcher	✓			
Games Links	70	0	10	10
E-mail Provider Links	52	0	1	1
News Provider Links	88	0	1	0

With its vast array of features and incredible ease of use, the Advanced Toolbar stands out from the competition. It's a powerful web tool that allows you to choose from over 100 search engines, 80 plus news sources, 50 plus email providers and can be completely customized to meet your needs. The Advanced Toolbar does not record any user data, has a very straight forward privacy policy and is totally spyware and adware free. You can get a free copy of the Advanced Toolbar at **http://www.advancedtoolbar.com** and take advantage of everything this incredible toolbar has to offer.



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Gaming PCs Gain Quad-Core CPUs

GAMING PCs

TEST Center

HARD-CORE gamers want the best of everything: top-tier graphics performance, sharp audio, and a monitor that displays the proceedings as vividly and as precisely as possible. We tested three desktop systems from Alienware, Dell, and Gateway that deliver on all counts.

SLICK-LOOKING GAMING MACHINES with quad-core CPUs from (left to right) Alienware, Dell, and Gateway.

All three systems use Intel's 2.66-GHz Core 2 Duo Extreme QX6700 CPU, which accommodates four processor cores on one chip. This approach provides lots of performance for programs (such as Excel 2007) that tap into multiprocessor CPUs; few games do so yet. For now, the extra cores will pay off most handsomely when you run intensive programs simultaneously.

On our WorldBench 5 test suite, the $4954 **Alienware Area-51 7500** (with a speedy score of 163) and the $4180 **Gateway FX530XT** (with a similar 161) outpaced the $4714 **Dell XPS 710** (a 151). The ABS Ultimate X9 currently holds our record, at 181. The FX530XT has its CPU overclocked to 3.2 GHz; Gateway covers the revved-up CPU in its warranty.

Of the three systems that we tested, the Alienware deserves credit for having the best design. For its part, the imposing Dell XPS 710 has a metallic chassis with plenty of ventilation. And it was the quietest model in the bunch: We could scarcely hear its fans running even when the system's components were working hard.

COMPACT POWER

THE GATEWAY system is much smaller than the other two models, packing everything into a case just 16 inches high. Though the smaller chassis saves space, it leaves little room for expansion: You get just one unoccupied drive bay and no vacant card slots. (The Alienware and Dell models each provide several bays for adding extra drives, and have available slots for PCI Express cards.) Another strength of the FX530XT is its impressive 24-inch FPD2485W LCD monitor with included speakerbar. (The other models came bundled with 20-inch monitors.)

The Alienware PC virtually tied the Gateway system in our Doom 3 test, with a frame rate of 167 frames per second at 1280 by 1024 resolution (versus the Gateway's 175 fps), and in our Far Cry test, with 208 fps at both 1024 by 768 and 1280 by 1024 resolutions (versus the Gateway's 209 fps).

The Area-51 7500 is the first model we've tested that uses an EVGA e-GeForce 8800 GTX graphics card with 768MB of dedicated memory. Unlike the boards that the other two PCs use, this GeForce 8800–based card will be able to work with DirectX 10 in Windows Vista to display stunning graphics in future games that are programmed to take advantage of DirectX 10's capabilities.

The Gateway PC achieved its results by using two ATI Radeon X1950 graphics cards arranged in a Crossfire configuration. Dell's XPS 710, which came loaded with a dual-GPU nVidia GeForce 7950 GX2 card with 1GB of video memory, trailed the competition on two of our graphics tests but finished ahead of them on two others (it excelled on our Doom 3 tests, notching the top frame rate of 177 fps at 1280 by 1024 resolution).

Each of these three systems delivers plenty of gaming muscle. The right one for you depends on your budget (the Gateway PC is the best value), your need for expansion (the Dell wins here), and whether you want the future-proofing of DirectX 10 (if so, the Alienware would be the way to go).

—Richard Baguley

Area-51 7500

Alienware

PCW Rating 77 Good

Gamers with money to burn will love this stylish, powerful, and expandable machine.

List: $4954

find.pcworld.com/55776

XPS 710

Dell

PCW Rating 79 Good

This large, quiet PC provides plenty of performance and expansion room for deep-pocketed gamers.

List: $4714

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FX530XT

Gateway

PCW Rating 78 Good

More compact than most gaming systems, this model offers top performance and a large monitor.

List: $4180

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PHOTOGRAPH: MARC SIMON

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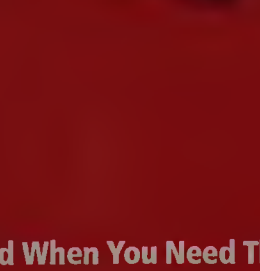

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Canon's G Series Hits 10 Megapixels

DIGITAL CAMERA

THE SOPHISTICATED $600 Canon **PowerShot G7** combines a 10-megapixel sensor, face-detection autofocus, optical image stabilization, and a maximum light sensitivity of ISO 1600. Each is a clear upgrade from the PowerShot G6.

The compact G7's rugged, bricklike metal body feels as though it could weather a few knocks. The unit has a large, high-resolution 2.5-inch LCD; but the LCD doesn't swivel (in contrast, the G6's did).

The mode dial atop the camera offers a typical assortment of shooting modes, plus two positions that you can assign customized settings to. You also get a dedicated ISO dial, which is far more convenient than using an LCD menu. Unfortunately, the top panel lacks a status display LCD.

The G7's four-way selector button is surrounded by a thin thumb wheel that permits you to select menu options without a lot of button pressing. And when you use the thumb wheel to choose a scene mode, a virtual dial spins on the LCD screen—a nice visual touch.

The G7 delivered very sharp shots in our tests, earning the best score on this measure among recently tested advanced cameras. Overall, the G7 captured a Very Good rating for image quality. Even so, we were disappointed by the indifferent accuracy of the G7's exposures on indoor shots (at automatic settings), especially on shots where we relied on the built-in flash. Regrettably, the autofocus was slow, and the lens tended to swim in and out for a second or two before locking onto the subject. The G7's performance on our battery tests was mediocre, too.

CANON'S G7 HAS a hefty, metallic body and a serious look.

Shortcomings aside, the G7 offers generous controls and easy navigation that may prove to be an ideal combination for photographers who frequently adjust manual settings in pursuit of the perfect shot.

—Eric Butterfield

PowerShot G7
Canon
PCW Rating 78 Good
The PowerShot G7 offers many innovative features and captures very sharp images, but it's pricey and has a short battery life.
Street: $600
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Apple's Shuffle Slims Down

DIGITAL AUDIO PLAYER

APPLE'S MINUSCULE **iPod Shuffle** is smaller than a matchbook, slimmer than a microcassette, and so light that you could clip it on your shirt and not stretch the fabric. In my hands-on testing of the updated Shuffle, I found it a worthy player for the price—despite limited controls and capacity.

This 1GB iPod Shuffle sells for $79, far less than the original 1GB Shuffle's price tag of $149. The new version of the player has a matte-anodized aluminum finish that (unlike its plasticized, gum-pack-size predecessor) resists smudging in the course of ordinary use. A spring clip on the Shuffle's back accounts for half of the device's bulk.

The Shuffle comes bundled with a USB 2.0 dock for charging and syncing the player. The player fits into the dock snugly, attaching at both the dock connector and the headphone jack. Though the dock is tiny, its weight—together with the grippy non-slip pad beneath it—will help keep it in place on your desk.

THE NEW IPOD Shuffle lacks a display, but offers functional buttons.

Like the original model, the new Shuffle lacks a display. A switch on the bottom of the unit allows you to toggle between sequential and random order when playing songs. Besides a four-way navigation dial, the redesigned Shuffle has an extremely small (think pinhole) LED that lights up green, orange, or red to indicate such things as battery status (Apple says that the new Shuffle will run for up to 12 hours on a single battery charge); but I found the LED too small and too subtle to be meaningfully useful.

iTunes 7.0.2 or later will recognize the updated Shuffle and will use an algorithm to upload your recently played and top-rated songs (or you can manually select tunes). Audio quality through the included earbuds was only fair, though loud and full; on our audio tests, the Shuffle was one of the noisier units we have tested.

The bottom line: I like the small size and versatility of Apple's new iPod Shuffle. In view of the unit's modest dimensions, the lack of a screen seems less deplorable than it did with the original model.

—Narasu Rebbapragada

iPod Shuffle 1GB
Apple
PCW Rating 72 Good
The minimalist Shuffle is a good, stylish digital audio player.
Street: $79
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PHOTOGRAPHS: MARC SIMON

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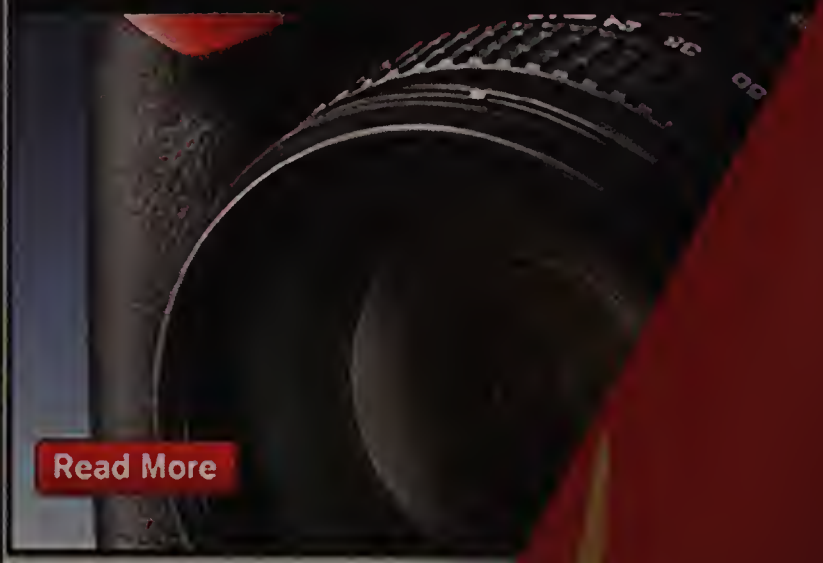

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	Bottom line: The chunky G6 won best in show by performing well in our image-quality tests and pro		
2	Olympus C-7070 Wide Zoom Best BUY $450 find.pcworld.com/48091	86 Very Good	• Image quality: Superior • Battery life: Superior • Overall design: Good
	Bottom line: The C-7070 has been around a while, but it has winning image quality and a bargain p		
3	Canon PowerShot Pro1 $699 find.pcworld.com/43164	81 Very Good	• Image quality: Very Good • Battery life: Good • Overall design: Good
	Bottom line: The Pro1's compact case makes it a pleasant camera to tote. Its battery life could be		
4	Canon PowerShot S2IS $499 find.pcworld.com/48088	79 Good	• Image quality: Very Good • Battery life: Fair • Overall design: Good
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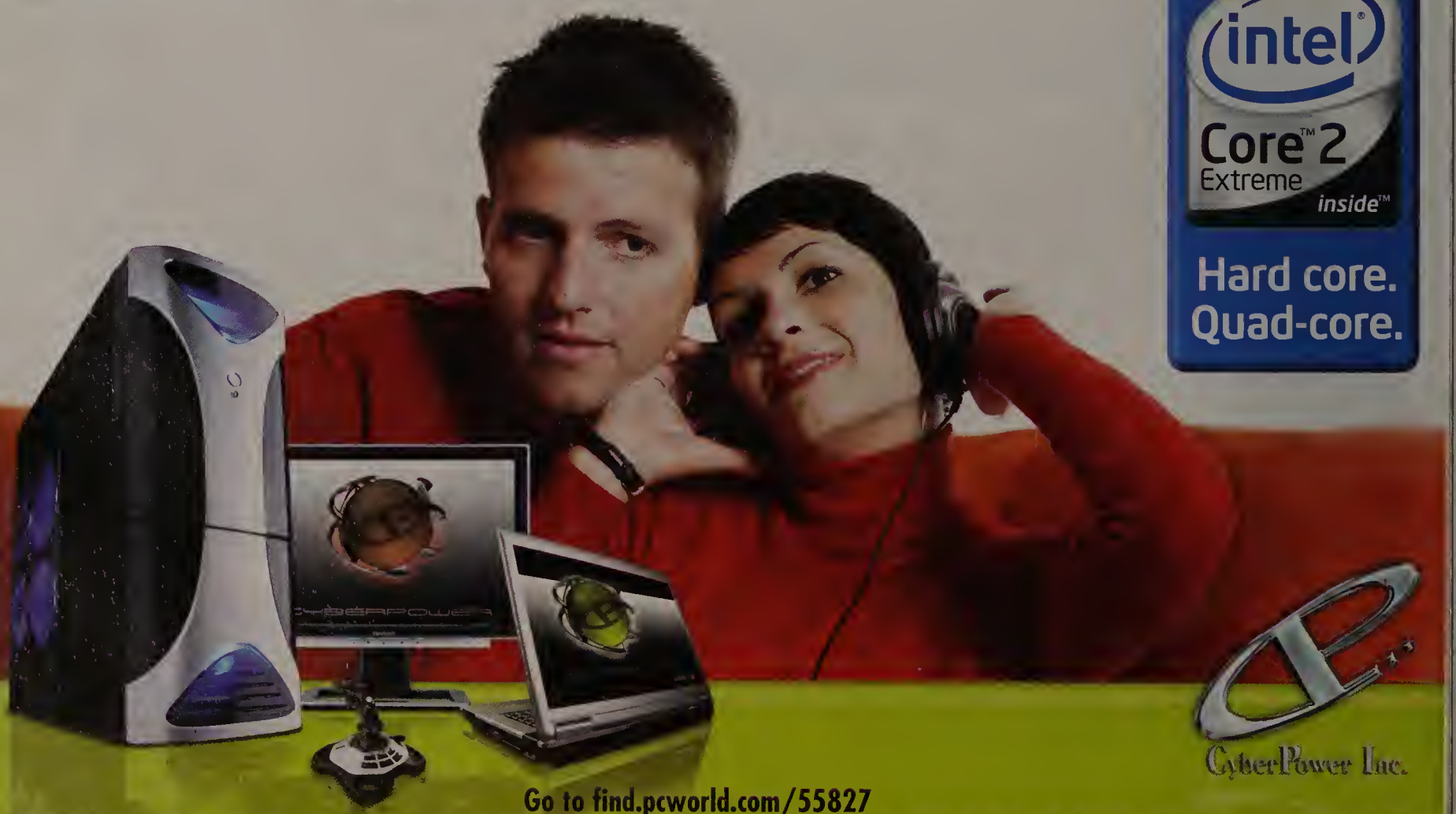

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McAfee, Symantec Aim to Fight Online Fraud

SECURITY

MANY DANGERS THREATEN you on the Internet—even when you're just browsing the Web. McAfee's **SiteAdvisor Plus**, the fee-based sibling of the security software firm's free SiteAdvisor product, and Symantec's **Norton Confidential** focus on protecting you as you interact with Web sites. Both apps work only with Internet Explorer 6 and later (with SiteAdvisor Plus, you can't even have Firefox installed).

I tested final versions of Norton Confidential and SiteAdvisor Plus. Both products use a color-coded safety rating system to categorize Web sites you visit. As you surf, Norton Confidential places a large, oval indicator—green for good, and red for bad—within a browserwide toolbar. SiteAdvisor's tiny toolbar does the same for good and bad, and also adds two colors: yellow for a questionable site, gray for an unknown one.

SiteAdvisor Plus—like its free, and Firefox-compatible, counterpart (find.pcworld.com/55616)—cross-checks sites against an extensive database of URLs that McAfee has previously tested for adware, spyware, viruses, phishing, and even spam.

The primary reason to pay $25 for SiteAdvisor Plus is to get its Protected Mode, which keeps users from visiting sites coded red or yellow. Because yellow sites are only suspected of being dangerous, possibly as a result of unverified user comments, blocking them en masse seems a bit draconian. I would prefer it if the program let you limit the blocking to red Web sites only.

Where SiteAdvisor's Protected Mode will guard you against sites suspected of distributing adware and spyware, Symantec's Norton Confidential won't. That's because Norton Confidential focuses on blocking phishing sites that try to steal sensitive personal information. It checks sites against previously conducted research; analyzes unknown sites in real time; and watches for screen capturing, keylogging, and data mining.

SYMANTEC'S NORTON CONFIDENTIAL keeps an eye out for fraudulent phishing sites as you surf.

In informal tests, both SiteAdvisor and Norton Confidential successfully blocked PhishTank.com's list of verified phishing Web sites. But whereas McAfee's blanket blocking flagged everything equally, Norton's messaging differentiated between known bad sites and suspected ones; you can choose to visit the latter group if you wish.

If you currently use either McAfee's or Symantec's Internet security suite, I'd skip both of these one-trick ponies, due to the way they overlap in protection.

But if you're looking for a discreet antiphishing tool to protect you while banking or buying online, Norton Confidential wins my vote despite its high price. SiteAdvisor Plus's blocking is less sophisticated, and the informational benefits of SiteAdvisor are available in the free product.

—Narasu Rebbapragada

Norton Confidential

Symantec

PCW Rating 84 Very Good

Expensive product protects against phishing and offers a password manager; it provides no Firefox support.

List: $50

find.pcworld.com/55757

SiteAdvisor Plus

McAfee

PCW Rating 81 Very Good

For-fee sibling of free tool blocks a wide variety of sites, but does not currently work with Firefox.

List: $25

find.pcworld.com/55756

ILLUSTRATION: HARRY CAMPBELL

GOTCHA!

Automatic Security-Software Renewals

THE NEXT TIME you buy PC security software online with a credit card, make sure you're not buying into a longer agreement than you intended. A new trend in the U.S. security-software industry is to sell the software as a service that is billed to your credit card automatically each year—unless you take measures to opt out first.

McAfee started automatically renewing customers in 2001, but over the past year both Symantec and Microsoft (with its new Windows Live OneCare products) have also adopted automatic renewals.

How to protect yourself from being surprised? When Symantec customers sign up for security products, the company sends them a link to a cancellation form they can complete to opt out of auto-renewals. In North America, McAfee customers can call 800/791-4577 to decline the auto-renewal. OneCare is the most difficult to opt out of: Customers who have bought the product online must cancel their subscription altogether to opt out (call 866/663-2273).

–Robert McMillan

Show Movies in Style

DIGITAL PROJECTOR

WITH ITS GLOSSY, piano-black finish and egg-shaped design, Toshiba's **TDP-ET20U** is sure to open eyes. And that's before you even switch on this $1400 all-in-one digital projector, slot-loading DVD player, and sound system.

The TDP-ET20U offers a lens with an unusually short focus. This translates into dramatic flexibility in terms of where you can position the projector. You can put it barely 2.5 feet from the projection surface—about half the distance required by competing models—to get a projected image measuring 5 feet diagonally. The myriad cable connections reside up front, an unusual approach that keeps cables safely out of the way, presumably, of passersby.

Available connections include component, composite, and S-Video outputs; coaxial digital audio inputs and outputs; and a composite audio output. You also get an HDMI input, but the video-optimized projector outputs images only at 848-by-480-pixel resolution (far less than full high definition), in a 16:9 wide-screen aspect ratio. The lamp's rating is 1200 lumens; the contrast ratio is 2500:1.

TOSHIBA'S TDP-ET20U PUTS almost all of its ports up front.

Image quality from this DLP projector's six-segment color wheel was reasonably sharp and satisfying, though in my informal movie tests, the images on my shipping model lacked punchy colors and some details in dark shadows. The integrated Dolby Digital 5.1 surround-sound speakers won't compete with those in a dedicated surround-sound setup, but they gamely handled a movie sound track.

The TDP-ET20U is costlier than competing all-in-one home theater projectors; however, the unit's compact, chic design and short-focus lens make it a contender.

—Melissa J. Perenson

TDP-ET20U
Toshiba
PCW Rating 84 Very Good
Gorgeous design and a short-focus lens distinguish this all-in-one home theater projector.
List: $1400
find.pcworld.com/55771

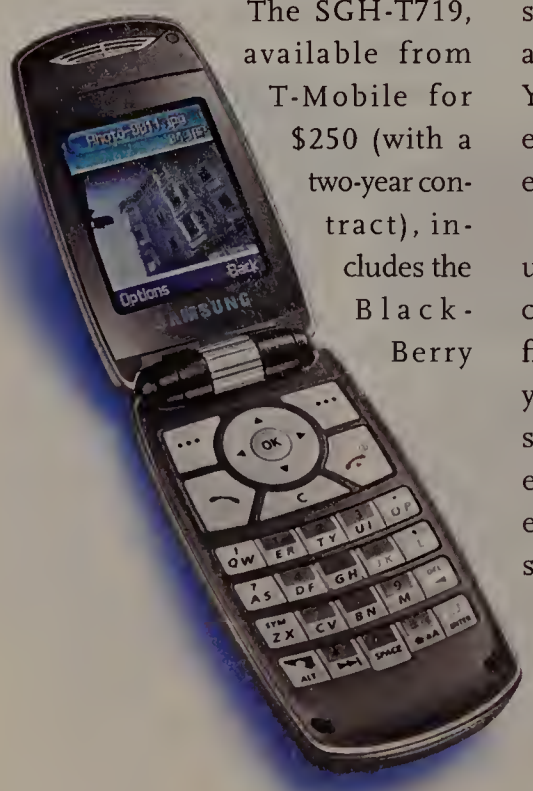
Samsung Phone Flips for BlackBerry

CELL PHONE

SAMSUNG'S NEW HANDSET, the **SGH-T719**, offers the best of BlackBerry e-mail in a sleek, flip-phone model—a first for a BlackBerry-enabled device.

The SGH-T719, available from T-Mobile for $250 (with a two-year contract), includes the BlackBerry Connect software, which adds BlackBerry's push e-mail technology to devices not manufactured by Research In Motion. Using the BlackBerry e-mail technology on a Samsung device is just as simple as it is on RIM's own handset. You can easily set up access to either personal or corporate e-mail accounts.

Within minutes of setting up my personal e-mail account, the messages started flowing. The SGH-T719 alerts you when you receive a message, and displays the sender's name on the flip phone's external screen. Reading messages on the 2.2-inch internal screen is comfortable, though the handset lacks the handy jog wheel that most RIM devices offer for scrolling through the message text.



SAMSUNG'S SGH-T719 BlackBerry phone includes a SureType keyboard.

Alas, responding to messages is not as pleasant an experience. Like the BlackBerry Pearl, the SGH-T719 features a SureType keyboard, with two letters on most keys. The keyboard is supposed to predict which of the two letters you need as you're typing each word, but it doesn't always work well, making typing laborious. Furthermore, the keypad is slightly slippery, and the keys are set almost flush with the phone, which makes them difficult to press.

The phone's talk-time battery life was great: The SGH-T719 lasted 9 hours, 21 minutes in our lab tests, earning a score of Superior. Voice quality was about average, though even at the highest volume setting, the sound was a little too muted for me.

The SGH-T719 is a great device if you want constant access to your e-mail but you don't want the bulk of a PDA phone. However, its SureType keyboard may give you fits.

—Liane Cassavoy

SGH-T719
Samsung
PCW Rating 76 Good
Sleek handset offers impressive e-mail features, thanks to its built-in BlackBerry software, but voice quality is so-so.
Price: $250 (with a two-year contract from T-Mobile)
find.pcworld.com/55762

PHOTOGRAPHS: MARC SIMON

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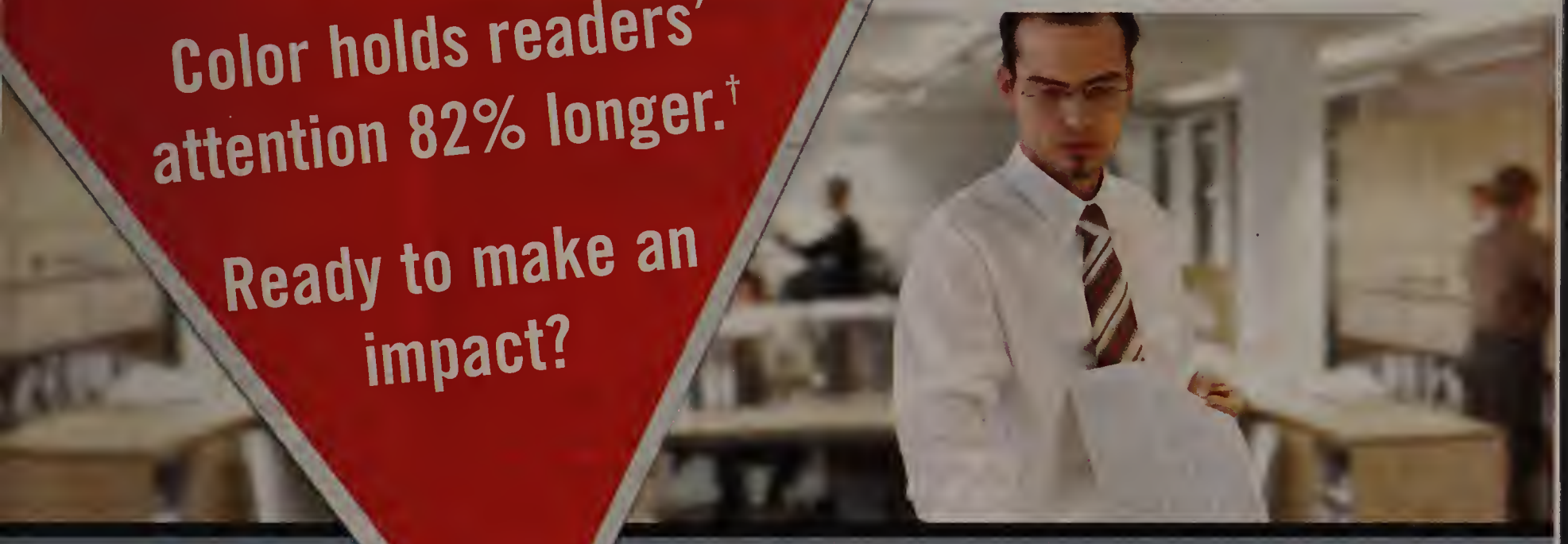

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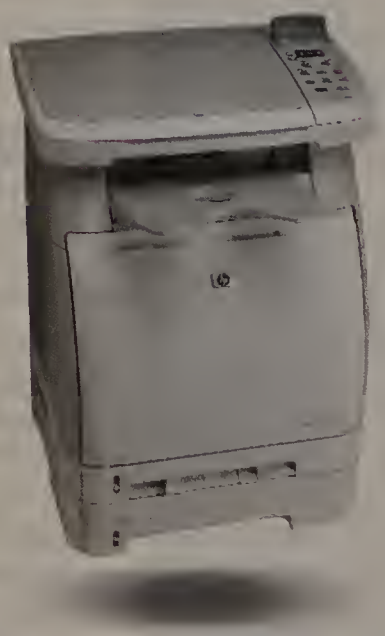

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†Hewlett-Packard, 2005.

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hp invent

TOP 5 UTILITIES

Compression Apps Do More Than Shrink Files

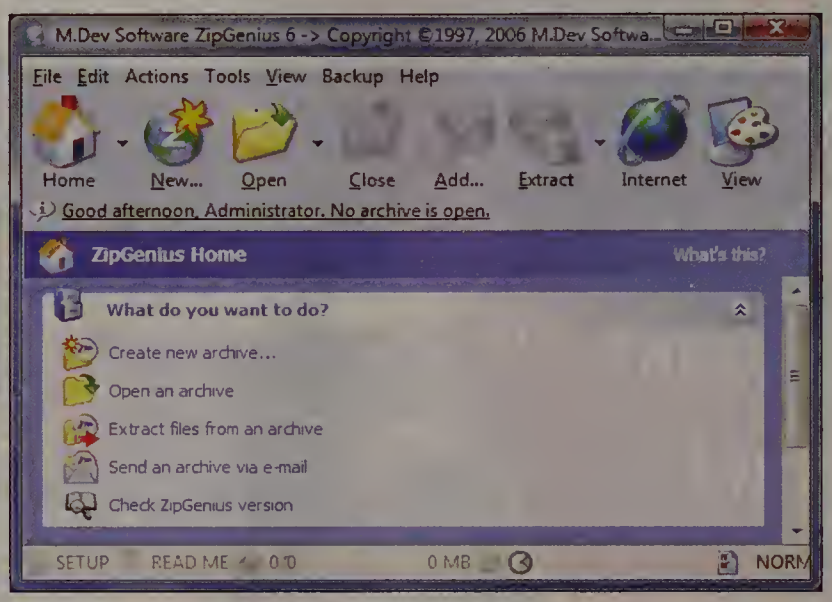
TEST Center THOUGH MICROSOFT may have built basic .zip support into Windows, dedicated compression programs continue to offer compelling features such as backup scheduling, FTP support, and archive searching.

Contrary to popular belief, compression software usually isn't free. Many applications will work beyond an initial 30- to 45-day trial period, but you are honor-bound to buy the program to keep using it.

We looked at the standard versions of six major compression utilities, taking into consideration each program's ease of use, reliability, features, price, and documentation. We also used 500MB of test data (office documents, photos, and multimedia files, some of which were already compressed and were difficult to compress further) to test each app's archive-creation prowess at its maximum compression settings. After a thorough comparison, we crowned the $20 PowerArchiver 2006 our Best Buy. In addition to offering solid compression, it provides several handy tools, including automatic backups and FTP capability. The software can create a variety of archive types, but it used the .7z format for maximum compression. (The .7z format was originally developed for the open-source 7-Zip program, an app that failed to make our chart.) The $30 WinZip 11 achieved the best results in our tests, though the performance differences between all of the apps were modest. WinZip squashed our 500MB of test files down to 86 percent of their original size. However, its strongest compression option, .zip, can't be extracted by any program except WinZip 10 or 11. Though WinZip 11 enables users to preview images in an archive, only the $50 Pro version provides FTP, command-line, and automated backup tools. The third-place $25 StuffIt Standard 9.5 also includes FTP and archive-search tools, but only its $40 Deluxe version offers automated backups and Microsoft Office integration. To extract its strongest compression format, .sitx, non-StuffIt users must employ the free StuffIt Expander software.

If your format of choice is .rar, then the powerful $29 WinRAR 3.61, ranked fourth, remains your only option.

—Danny Allen



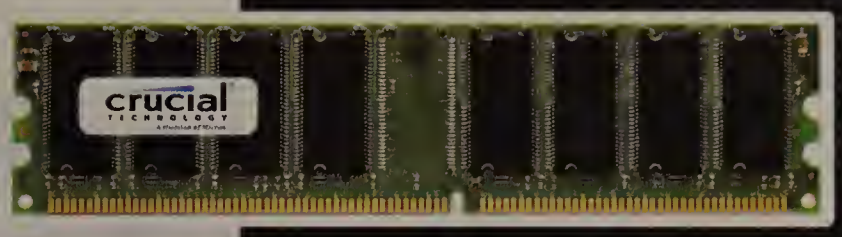
FREE ALTERNATIVE: ZIPGENIUS 6 Standard displays thumbnails of images in an archive, and offers FTP and archive-search capabilities.

	COMPRESSION SOFTWARE	PCW Rating	Performance[1]	Features and specifications
1	ConeXware PowerArchiver 2006 (version 9.63) Best Buy $20 find.pcworld.com/55960	83 Very Good	• Compressed test-file size: 87% • Compression speed: Very Good • Ease of archive creation: Very Good • Ease of archive extraction: Superior	• Best compression: 7-Zip file (ultra setting) • Encryption: AES-256, Blowfish-128, Triple DES-128, Zip AES-256, • Automated backups: Yes
	▸ **Bottom line:** Versatile, easy-to-use app provides encryption support and numerous archive formats, plus a range of useful, integrated tools.			
2	M.Dev Software ZipGenius 6 Standard Edition Free find.pcworld.com/55962	81 Very Good	• Compressed test-file size: 88% • Compression speed: Poor • Ease of archive creation: Good • Ease of archive extraction: Superior	• Best compression: 7-Zip file (max. setting) • Encryption: AES-128, BlowFish-128, CryptoZip 2.0, TwoFish • Automated backups: No
	▸ **Bottom line:** This free alternative to fee-based programs generally competes well against its commercial competition.			
3	Smith Micro Software StuffIt Standard 9.5 $25 find.pcworld.com/55959	79 Good	• Compressed test-file size: 89% • Compression speed: Superior • Ease of archive creation: Good • Ease of archive extraction: Very Good	• Best compression: StuffIt X file (method 5) • Encryption: AES-256, BlowFish-448, DES-64, RC4-512 • Automated backups: Deluxe version only
	▸ **Bottom line:** StuffIt delivers strong archive management and encryption options, but suffers from a few usability annoyances.			
4	RARLab WinRAR 3.61 $29 find.pcworld.com/55958	76 Good	• Compressed test-file size: 89% • Compression speed: Very Good • Ease of archive creation: Very Good • Ease of archive extraction: Superior	• Best compression: RAR file (best setting) • Encryption: AES-128 • Automated backups: Yes
	▸ **Bottom line:** WinRAR is the only program capable of creating RAR files. It boasts powerful automation and command-line tools.			
5	WinZip Computing WinZip 11 (standard) $30 find.pcworld.com/55956	74 Good	• Compressed test-file size: 86% • Compression speed: Poor • Ease of archive creation: Good • Ease of archive extraction: Superior	• Best compression: Zip file (max. setting) • Encryption: AES-256, Zip 2.0 • Automated backups: Pro version only
	▸ **Bottom line:** WinZip retains a familiar interface but lacks some advanced tools. Only WinZip 10 or 11 can extract its .zip archives.			

CHART NOTES: Ratings and prices are as of 12/6/06. [1]Compression tests were conducted using each app's maximum compression settings on a 500MB group of test files.

ONLINE

FOR MORE INFORMATION about the products reviewed in this chart, including details on how we tested them, please go to find.pcworld.com/55976.



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The Memory Experts

TOP 10 GRAPHICS BOARDS

nVidia Tops Charts, Unveils Next-Gen GeForce

TEST Center OUR MAINSTREAM Best Buy this month is EVGA's e-GeForce 7900 GT KO Superclocked graphics card. Combining great performance and an affordable $200 price, it edged out rivals based on ATI's competitive Radeon X1950 chip.

Strong test results and a terrific software bundle helped the $539 dual-GPU Asus EN7950GX2 top our power ranking, although it costs $39 more than EVGA's e-GeForce 7950 GX2, in fifth.

DIRECTX 10-READY: THE $599 XFX GeForce 8800GTX.

Also pricey is the power list's number two board, the $599 XFX GeForce 8800GTX; however, it's the fastest card that we've seen yet. Its new high-end nVidia GeForce 8–series GPU introduces physics processing and support for Windows Vista's DirectX 10 API, to enable more-advanced graphics in future PC games.

—Danny Allen

ONLINE

FOR MORE INFORMATION on the graphics boards reviewed in this chart, including details on how we tested them, go to find.pcworld.com/55808.

	MAINSTREAM BOARD	PCW Rating	Performance	Features and specifications
1	EVGA e-GeForce 7900 GT KO Superclocked Best BUY $200 find.pcworld.com/54070	84 Very Good	• Battlefield 2: 74 fps • Half-Life 2: 113 fps • Quake 4: 106 fps	• 256MB nVidia GeForce 7900 GT • Two DVI-out, S-Video-out, component-out
	▸ **Bottom line:** Overclocked out of the box, this single-slot card delivers blazing performance for its price.			
2	Asus EAX1950 Pro $155 find.pcworld.com/55801	83 Very Good	• Battlefield 2: 74 fps • Half-Life 2: 102 fps • Quake 4: 66 fps	• 256MB ATI Radeon X1950 Pro • Two DVI-out, S-Video-out, composite-out, component-out
	▸ **Bottom line:** This board offers a good balance of cost and performance. It uses an internal bridge clip for CrossFire2 setup.			
3	Asus EN7900GS Top $219 find.pcworld.com/55802	82 Very Good	• Battlefield 2: 74 fps • Half-Life 2: 95 fps • Quake 4: 100 fps	• 256MB nVidia GeForce 7900 GS • Two DVI-out, S-Video-out, composite-out, component-out
	▸ **Bottom line:** Factory-overclocked card includes a full copy of the game Tom Clancy's Ghost Recon, and a three-year warranty.			
4	ATI Radeon X1950 Pro $199 find.pcworld.com/55798	81 Very Good	• Battlefield 2: 74 fps • Half-Life 2: 102 fps • Quake 4: 65 fps	• 256MB ATI Radeon X1950 Pro • Two DVI-out, S-Video-in/out, composite-out, component-out
	▸ **Bottom line:** ATI's own X1950 Pro–based card offers good specifications and performance at a fair price.			
5	PowerColor Radeon X1950 Pro Extreme $249 find.pcworld.com/55791	81 Very Good	• Battlefield 2: 75 fps • Half-Life 2: 103 fps • Quake 4: 67 fps	• 256MB ATI Radeon X1950 Pro • Two DVI-out, S-Video-in/out, composite-in/out, component-out
	▸ **Bottom line:** Expensive but strong-performing board has its GPU overclocked at 600 MHz and is cooled by a silent fan.			
	POWER BOARD			
1	Asus EN7950GX2 Best BUY $539 find.pcworld.com/55803	84 Very Good	• Battlefield 2: 76 fps • Half-Life 2: 112 fps • Quake 4: 120 fps	• 1GB nVidia GeForce 7950 GX2 • Two DVI-out, S-Video-out, composite-out, component-out
	▸ **Bottom line:** Pricey dual-GPU board provides superior performance and two bundled full games, including King Kong.			
2	XFX GeForce 8800GTX $599 find.pcworld.com/55789	83 Very Good	• Battlefield 2: 80 fps • Half-Life 2: 126 fps • Quake 4: 124 fps	• 76BMB nVidia GeForce 8800 GTX • Two DVI-out, S-Video-out, composite-out, component-out
	▸ **Bottom line:** High-end GeForce 8–series board is the fastest card we've seen to date. It also supports Windows Vista's DirectX 10 API.			
3	ATI All-In-Wonder X1900 $250 find.pcworld.com/53718	82 Very Good	• Battlefield 2: 74 fps • Half-Life 2: 101 fps • Quake 4: 64 fps	• 256MB ATI Radeon X19D0 • DVI-out, S-Video-in/out, composite-in/out, component-out
	▸ **Bottom line:** Top-of-the-line card offers TV-tuner capabilities, a great software bundle, and graphics power to spare.			
4	Diamond Multimedia Radeon X1950 XTX $450 find.pcworld.com/55796	82 Very Good	• Battlefield 2: 77 fps • Half-Life 2: 116 fps • Quake 4: 95 fps	• 512MB ATI Radeon X1950 XTX • Two DVI-out, S-Video-in/out, composite-in/out, component-out
	▸ **Bottom line:** CrossFire-ready board uses GDDR4 memory, has top-notch performance, and ships with a range of video input/output cables.			
5	EVGA e-GeForce 7950 GX2 $500 find.pcworld.com/54064	81 Very Good	• Battlefield 2: 76 fps • Half-Life 2: 114 fps • Quake 4: 118 fps	• 1GB nVidia GeForce 7950 GX2 • Two DVI-out, S-Video-out, component-out
	▸ **Bottom line:** Dual-GPU card performs well at standard resolutions but edges rivals only at ultrahigh settings.			

CHART NOTES: Prices and ratings are as of 12/6/06. All game performance times are in frames per second; higher numbers are better.

PHOTOGRAPH: MARC SIMON

If you think all wireless connections are the same, don't worry. There are places you can go for help.

Mental note: Certified Wireless USB is the inevitable wireless platform of the future. Like its wired predecessors, it connects up to 127 devices simultaneously. And moves huge amounts of data with speed (up to 480 Mbps), security and simplicity. Brought to you by the minds behind original and Hi-Speed USB, this technology has been optimized for wireless connectivity. For more mind-bending facts, go to www.usb.org/LookForTheLogo.

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ReplayTV for PC Lets You Record TV Your Way

DVR SOFTWARE

READY TO TURN your PC into a digital video recorder? ReplayTV's new **ReplayTV PC Edition** software goes far in addressing the shortcomings of competing DVR software.

ReplayTV PC Edition leverages much of the design and recording flexibility that made the company's living-room components a hit among early DVR fans. The $100 software package includes one year of the ReplayTV Electronic Program Guide (after that, the annual fee is $20—less than what TiVo charges monthly for its service). The software is compatible with some Hauppauge WinTV PVR tuner cards and works with Hauppauge's remote control and set-top box infrared blaster (for use with most analog and some digital cable and satellite set-top boxes).

The interface is straightforward and simple to use, with screens that forgo busyness and complexity without sacrificing the advanced customization options that serious DVR fans crave. You navigate the available choices as if you're stepping through a decision tree, following the paths available to you based on your previous choices.

The forward arrow is your visual signpost throughout the recording process; this scheme makes it simple to set up recordings, whether you already know what you want to record or you're browsing for content. The menuing accommodates navigation via either a keyboard-mouse combo or a remote control.

REPLAYTV PC EDITION provides a clean, easy-to-use interface for recording TV; but its small nav buttons up top are ineffective.

The Home screen is clean and uncluttered; you'll return to it often. The Home screen is the jumping-off point for accessing Recorded Shows (where you can view and manage your recordings); Show Search (which offers a multitude of ways to search for content, including by actor, director, or subject, or by a more random Surprise Me option); and TV Listings (a grid where you simply select a show and initiate a recording). You can also opt to watch TV or adjust global settings.

You can specify up to five custom recording settings, including whether to record just first-run episodes or both first-runs and repeats; the number of episodes to keep (up to 99); the recording quality; and the number of minutes you want to extend the recording beyond its time.

ReplayTV PC Edition does have some notable omissions and interface quirks. When you search for an actor by last name, you can't further refine the search from there—annoying if you're searching on a name like 'Anderson', for *Stargate SG-1*'s Richard Dean Anderson, number 23 of 30 results. Also, three small buttons at the top of the interface provide access to the Home screen, the program guide, and a "back-step" feature, but the buttons are too small and out of the way to be useful. Finally, I was frustrated by the app's inability to convert its MPEG-2 DVR-MS format files to another format.

As much as I liked ReplayTV PC Edition, in the end, I felt that this first iteration is best as a complement to my existing DVR, not a replacement.

—Melissa J. Perenson

ReplayTV PC Edition

ReplayTV

PCW Rating 79 Good

This highly configurable software has a beautiful, usable interface, but it's held back by a lack of integrated file conversion.

Price: $100 (includes first year of program guide; $20 per year thereafter)

find.pcworld.com/55784

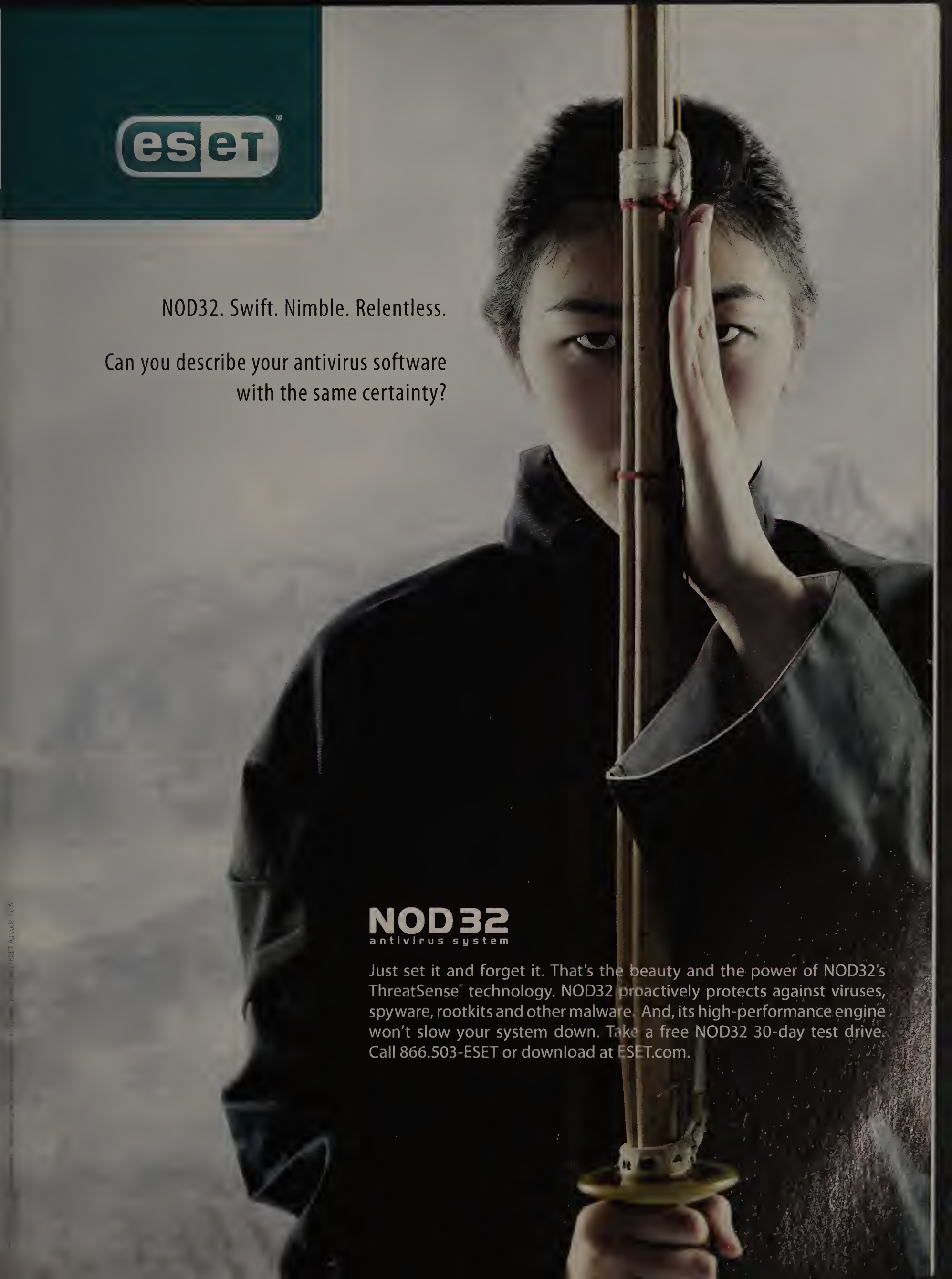
ASK OUR EXPERTS

Using E911 on Vonage

VONAGE.COM SAYS THAT you can check the availability of your cell phone's E911 service by dialing "933" from your Vonage line. I called the number and was told that my E911 service was enabled. Though I assume that it works, is there another way I can test the feature without calling 911?

Keith Willoughby, Indianapolis, Indiana

Senior Associate Editor Liane Cassavoy responds: You're wise to avoid calling 911 just to see if your service is working—you might tie up an operator when someone who has an actual emergency is trying get through. But you can take steps to ensure your safety. First, you should register your physical address with your Internet phone service provider. Second, you can call the non-emergency phone number for your local police department and ask if there is a way you can test your phone's 911 service without initiating an emergency call. They may be able to help you test the service by making sure that your phone connects to a local 911 dispatcher and that the dispatcher has the correct address for your phone number.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antivirus system
Just set it and forget it. That's the beauty and the power of NOD32's ThreatSense® technology. NOD32 proactively protects against viruses, spyware, rootkits and other malware. And, its high-performance engine won't slow your system down. Take a free NOD32 30-day test drive. Call 866.503-ESET or download at ESET.com.

TOP 5 MULTIFUNCTION INKJETS

They Do It All, but Performance Varies Widely

TEST Center EACH OF THE multifunction inkjet printers on this month's chart is a newly tested model. Among these MFPs—also called all-in-ones—speeds varied widely. In our lab tests, the best performer across the board was the Canon Pixma MP600, which is priced low at $200 and earned our Best Buy.

Regardless of whether it was churning out text, graphics, or photographs, the MP600 printed faster than the competition, generating text at a brisk 11.9 pages per minute, graphics at 3.7 ppm, and glossy photos at 2.3 ppm.

The MP600 has many features, including dual paper trays and a duplexer for producing double-sided prints. Whether this model is the appropriate device for you, however, will likely depend on two features it lacks: It has no built-in fax capability, which limits its appeal for office users; and photo enthusiasts will be disappointed that the product doesn't scan film.

CANON'S NEW PIXMA MP600 is fast, and makes attractive prints and scans. But it lacks a fax machine and a document feeder.

If you're willing to spend more, the $399 Canon Pixma MP960 delivers the works. It has a duplexer and two paper trays, as well as a big, 3.5-inch LCD screen, a scroll wheel for easy menu navigation, seven inks, and film scanning.

The $99 Lexmark X5470 distinguishes itself with more than just a very low price: It's the only model here that has a built-in fax machine.

COPIES AND SCANS

AS A COPIER, the MP600 is fast—on average it took 13 seconds per page. The MP960 churned out a copy every 17 seconds. Some of the other models took significantly longer. Epson's RX580 required 25 seconds to make a single copy, HP's C5180 took 28 seconds, and the Lexmark X5470 dragged its feet, finishing the task after 32 seconds.

The MP600 and MP960 delivered the best-looking copies, earning a Very Good mark for the dark, sharp text in their reproductions. The HP and Lexmark models received a Good for copy quality; and the Epson RX580 scored a Poor.

The Epson and the Lexmark produced the least-attractive scans; a lack of sharp details and inaccurate colors contributed to the Fair grade that each printer received. Scans from the other three devices looked slightly better—each model earned a score of Good.

—Eric Butterfield

	MULTIFUNCTION INKJET	PCW Rating	Performance	Features and specifications
1	Canon Pixma MP600 Best Buy $200 NEW find.pcworld.com/55963	85 Very Good	• Text quality: Good • Graphics quality: Good • Tested speed (ppm): 11.9 text/ 3.7 graphics	• 30 ppm text • 24 ppm graphics • 9600-by-2400-dpi maximum true-color resolution
	▸ **Bottom line:** This unit prints high-quality text and photos. It has a duplexer and dual paper trays, but no film scanning or document feeder.			
2	Canon Pixma MP960 $399 NEW find.pcworld.com/55964	81 Very Good	• Text quality: Fair • Graphics quality: Good • Tested speed (ppm): 11.7 text/ 3.1 graphics	• 30 ppm text • 22 ppm graphics • 9600-by-2400-dpi maximum true-color resolution
	▸ **Bottom line:** The pricey MP960's big LCD and scroll-wheel control make it a snap to use. It prints top-quality photos quickly and scans film.			
3	HP C5180 $200 NEW find.pcworld.com/55966	77 Good	• Text quality: Fair • Graphics quality: Fair • Tested speed (ppm): 7.3 text/ 2.8 graphics	• 32 ppm text • 31 ppm graphics • 4800-by-1200-dpi maximum true-color resolution
	▸ **Bottom line:** Priced well for a networked MFP, the C5180 delivers high-quality glossy photos, but it could do better on plain paper.			
4	Epson RX580 $200 NEW find.pcworld.com/55967	73 Good	• Text quality: Poor • Graphics quality: Poor • Tested speed (ppm): 3.9 text/ 2.8 graphics	• 30 ppm text • 30 ppm graphics • 5760-by-1440-dpi maximum true-color resolution
	▸ **Bottom line:** This device is easy to use but fails to offer any outstanding features to make up for its mediocre print quality.			
5	Lexmark X5470 $99 NEW find.pcworld.com/55968	72 Good	• Text quality: Fair • Graphics quality: Poor • Tested speed (ppm): 9.8 text/ 2.1 graphics	• 25 ppm text • 18 ppm graphics • 4800-by-1200-dpi maximum true-color resolution
	▸ **Bottom line:** The inexpensive X5470 offers many features, including faxing and media slots, but its print quality is lackluster.			

CHART NOTE: Prices and ratings are as of 10/25/06.

ONLINE

FOR MORE INFORMATION about the multifunction printers reviewed in this chart, including a complete test report, go to find.pcworld.com/53496.

PHOTOGRAPH: MARC SIMON

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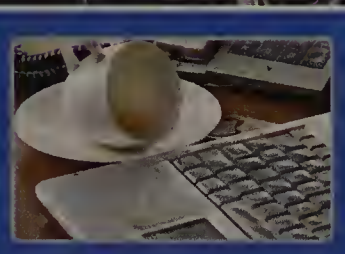

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New UMPCs Hit Closer to the Mark

PCs TO GO: Ultramobile PCs from Samsung (left) and Asus break new ground with better battery life and a slew of features, respectively.

MOBILE PC

THE FIRST ULTRAMOBILE PCs—tablet-shaped, touch-screen handhelds that are larger than PDAs but smaller than laptops—had limitations that detracted from their mainstream appeal.

Judging by shipping versions of Asus's **R2H** and Samsung's **Q1B**, however, UMPCs are starting to mature by offering features you can't get in a notebook or desktop PC. In fact, my pick of these two—the $999 Asus R2H—packs more features in its 9.25-by-5.25-by-1.25-inch box than you'll find in many PCs.

The jam-packed Asus device's connectivity and security are hard to beat. The R2H has 802.11g Wi-Fi and Bluetooth wireless built in (the Samsung Q1B comes with only 802.11g Wi-Fi), and USB 2.0 ports are located on either side and on the top of the device. A fingerprint scanner built into the front-left side of the R2H offers an extra level of security (the included software captures two finger scans in case the first one can't be recognized). The few times that I logged on with this scanner, it recognized me without hesitation.

PLENTIFUL EXTRAS

THE 2-POUND R2H also includes an SD Card slot, an ethernet port, an AV-out connector, an earphone port, a built-in microphone, and a combination expansion port and VGA analog monitor connector. Just above the screen is a built-in 1.3-megapixel video camera. To top it off, the machine has a SiRF III GPS transceiver to use along with the bundled copy of Microsoft Streets & Trips 2006; I found this combination a workable GPS solution, though it can't match the accuracy of a dedicated GPS device.

I was surprised to find a USB 2.0 NetLink cable and software app for connecting the Asus directly to another PC for instant file sharing. And I was relieved to find a real-live Windows XP Tablet PC Edition 2005 DVD provided (something that no other UMPC I've looked at comes with). As with other UMPCs, you have to furnish your own USB 2.0–connected external DVD drive to run the disc.

The R2H's one drawback is its short battery life: The unit ran out of juice after only 2 hours, 10 minutes of use.

Battery life may be the R2H's main weakness, but it happens to be the $899 Samsung Q1B's main strength. Armed with a Via processor (in lieu of the original Q1 model's Intel CPU), the Q1B's battery life was more than double that of the Q1: In my testing the Q1B ran for 4 hours, 25 minutes.

Apart from its Via processor, the Samsung Q1B UMPC is configured about the same as its Intel-based Q1 predecessor (find.pcworld.com/55804). Unfortunately, those specs are below the bar set by the Asus R2H: The Q1B features a 40GB hard drive versus the R2H's 60GB drive, 512MB of RAM compared with 768MB in the R2H, and two USB 2.0 ports versus the Asus model's three ports.

Even though the Samsung Q1B costs $100 less and looks classier than the R2H, the sheer functionality and flexibility of the Asus handheld, and its plethora of built-in features, make the R2H easier for me to recommend.

—Dennis O'Reilly

Q1B
Samsung
PCW Rating 75 Good
An updated processor extends the Q1B's battery life, but the unit lacks the features of competing UMPCs.
Street: $899
find.pcworld.com/55805

R2H
Asus
PCW Rating 83 Very Good
The extras make this as close to the ideal UMPC as we've seen, though battery life is short.
Street: $999
find.pcworld.com/55806

TECH TREND

Megapixels on the Rise

IN EARLY 2004 the average point-and-shoot model we tested had a little more than 4 megapixels. Now the average is nearly 6.5 megapixels. And that number may climb: Companies like Adobe are dreaming up concepts that will require much greater resolution—and point-and-shoot cameras could benefit from this megapixel mania.

Adobe's Advanced Technology Labs showed us a prototype lens that incorporates 20 smaller lens elements (each with 10-megapixel resolution, for a total of 200 megapixels) in a honeycomb pattern. Each element captures the same image but with a different depth of field and focus; you can then select the image with the depth and focus you want, or use Adobe's skunk-works software to combine portions of each element *—Alan Stafford*

ILLUSTRATION: HARRY CAMPBELL; PHOTOGRAPH: MARC SIMON

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PHAROS'S DRIVE GPS 140 in-car navigation device.

Pharos GPS: Extras, But So-So Directions

GPS

YOU GET MUCH more than driving directions with Pharos's new $490 **Drive GPS 140**. Unlike competing GPS models, this unit also lets you view videos and still images, and even play audio files.

As a navigation device, the Pharos 140 offers the speed and accuracy you need to traverse unfamiliar routes. But it's missing some of the nice touches found on its competitors, and I quickly came to miss the map details and night views, for example, that you get with products such as the TomTom One. Even some of the driving details were lacking: The directions that the Pharos 140 provides can be less clear than those of competing GPS devices.

The shipping unit I tested worked right out of the box. Maps and points of interest for the United States and Canada are preinstalled on the device's 2GB SD Card.

I found that the Pharos 140's windshield-mounted cradle stayed firmly in place over some bumpy roads, and I could easily see my route on its bright, 4-inch screen.

The unit did a great job of keeping up with me as I traveled. Still, I was caught by surprise by a couple of the turns: The device doesn't warn you about turns that follow quickly one after the next, something the TomTom One and other GPS systems do.

In addition to its multimedia support, you can link your Bluetooth-enabled cell phone to the Pharos device for hands-free calling; however, it's difficult to follow the many steps that are required to sync it with your phone.

The Pharos 140 is slightly more costly than GPS systems that offer features this model lacks. Still, the Drive GPS 140's ability to play media files may make its extra cost worthwhile if you want a GPS to do more than just navigate.

—Dennis O'Reilly

Drive GPS 140
Pharos
PCW Rating 79 Good
Ready to use right out of the box, but it lacks night map views, and its driving directions lack the detail of competing devices.
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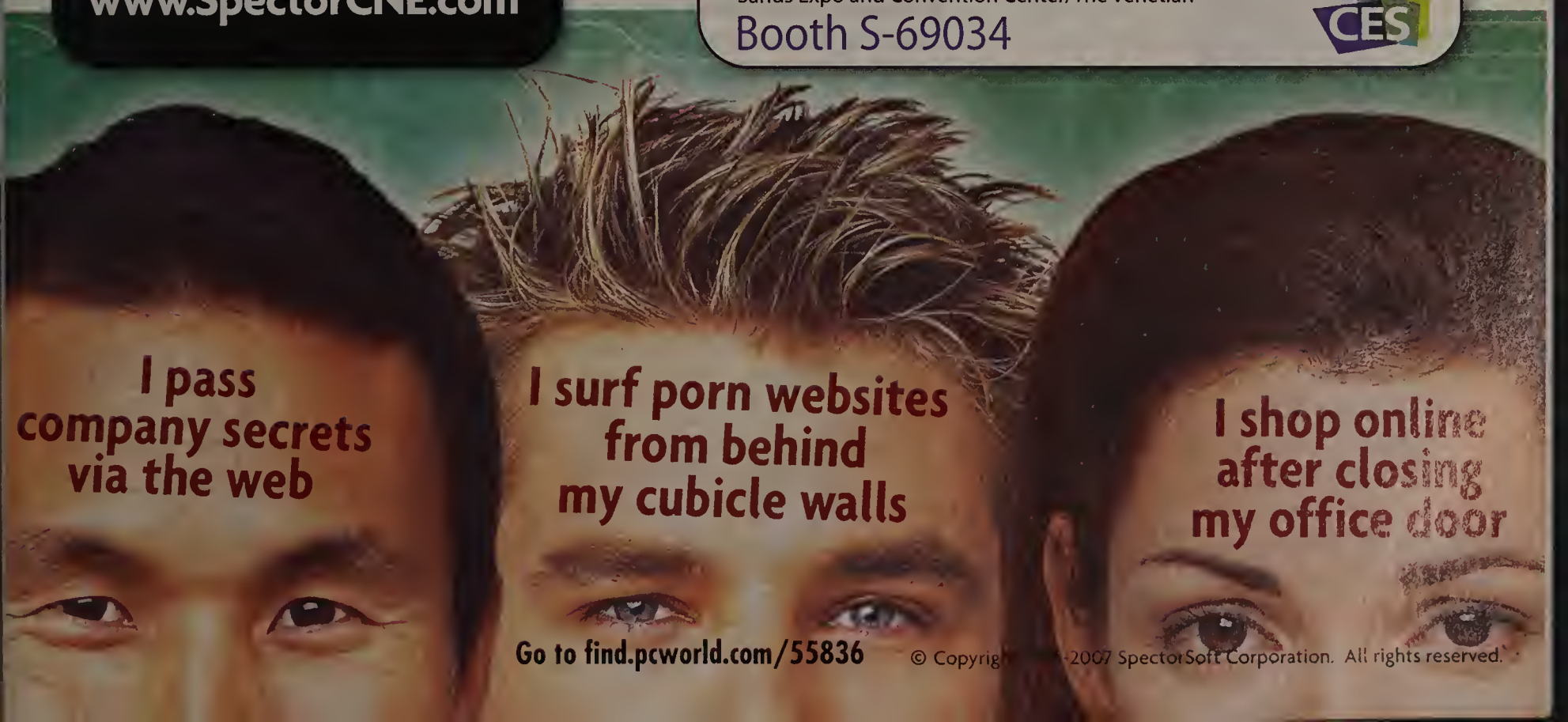

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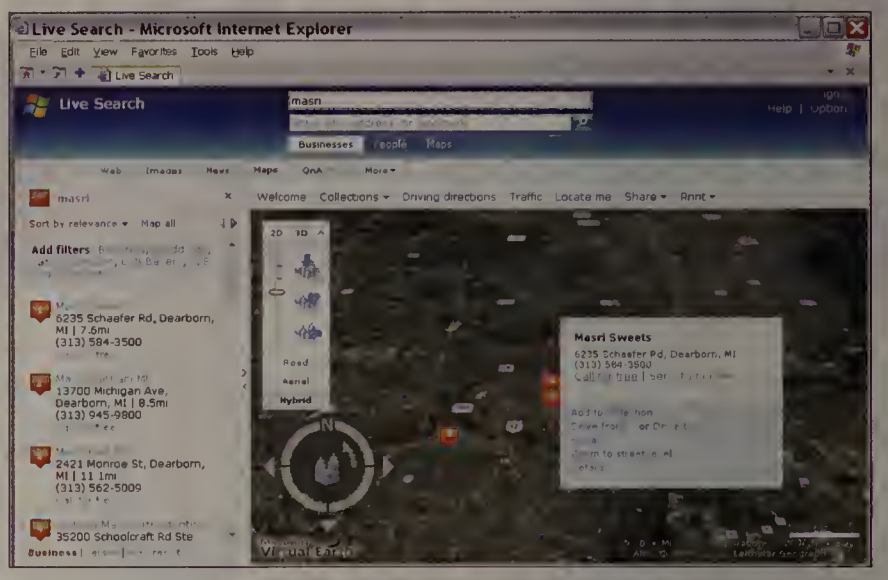
Windows Live Search Gains 3D Map Views



WINDOWS LIVE SEARCH taps Microsoft's Virtual Earth 3D to offer 3D mapping views of search results for info on local businesses.

WEB SERVICES

MY FIRST TOUR of a beta of Microsoft's Virtual Earth 3D left me impressed with its bird's-eye view and its easy access to local business information. The company has now added a 3D view of search results to the mapping component of its rechristened **Windows Live Search** service (formerly called Windows Live Local). A map interface for local search results makes perfect sense: For example, you can scout out an unfamiliar city prior to your trip.

Windows Live Search
Microsoft
PCW Rating: Preproduction software, not rated
Windows Live Search adds 3D mapping views to its local information searches, giving it a useful new dimension for locals and travelers alike.
Free
find.pcworld.com/55800

Still, as you might expect from a beta, the service is only partway there. The transition from the typical list of links to a flat map, satellite, or 3D image of the location is relatively seamless. But getting from the main Windows Live Search results pages to the maps and 3D views took several more clicks than it should have. You can also access the service directly, by entering a business name, category, or address (a city name or zip code will suffice as well).

Currently, the 3D views are limited: They're available for only 15 cities. But Microsoft plans to offer such content for as many as 100 metropolitan areas by the middle of the year. As its breadth grows, Windows Live Search could well become the go-to destination for local search.

—Dennis O'Reilly

Special Advertising Supplement

The most flexible solution for recovering lost data

Enhancements to R-Studio from R-Tools gives users added capabilities to retrieve Windows-based files

THE MOST INNOVATIVE SOLUTION for recovering business-critical data lost to a host of threats just got better.

R-Tools, the leader in smart data recovery solutions, has launched **R-Studio 3.6.** The newest version of this business continuity solution now allows users to preview almost all major file types before they are actually recovered, even if the prescribed application is not installed. For example, users of R-Studio 3.6 can preview a .pdf file regardless of whether Adobe Reader is installed.

These latest enhancements further build upon the lengthy list of capabilities of R-Studio as the ideal solution for recovering essential data that otherwise would be lost forever to viruses, malicious attacks, hardware failures, and operating system crashes. Plus, R-Studio is a Microsoft Vista-ready application.

Bundled with R-Studio 3.6 is **R-Studio Emergency Version**, allowing users to recover data even when Windows cannot be booted due to system file corruption or deletion.

R-Studio 3.6 is one product on a fast-growing list of business continuity solutions from R-Tools, a list that now includes the recently released **R-Mail for Outlook**. This handy utility restores deleted information and repairs damaged Microsoft Outlook files when Outlook cannot open them, permitting users to first preview recovered messages before recovering the information completely.

Meanwhile, R-Tools also offers **R-Mail for Outlook Express**, which reconstructs accidentally deleted email messages or damaged .dbx files. Other exceptional business continuity solutions from R-Tools include **R-Word** to recover damaged Microsoft Word files; **R-Excel** to reconstitute valuable Microsoft Excel files that are corrupted or attacked; and **R-Wipe & Clean** to automatically keep disks free and clear of data clutter.

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CE HOT PRODUCT SHOWCASE

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For more information on the new products from Linksys,
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PLE200:

The PowerLine AV Ethernet Adapter enables consumers to easily expand a home network using their existing power lines to transmit data, including digital media, at high-speeds. Devices in areas of the home without wireless access can join the network by simply attaching to a PLE200 plugged into a power outlet.

For more information on the new products from Linksys,
visit www.linksys.com or call 1-800-737-7201.

WRT600N:

Simultaneous Dual-Band Wireless-N technology and a built in Media Server enable the WRT600N to stream music, videos, and photos at remarkable speeds with increased range even without a PC. Consumers can share content from easily attached USB storage devices wirelessly throughout the home with any UPnP device that can access the network.

For more information on the new products from Linksys,
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NAS200:

The NAS200 provides consumers the ability to share and secure valuable content like pictures, video or music stored on hard drives without taxing PC computing power. Two external USB ports for connecting additional storage devices and self-monitoring software that warns of potential problems before they occur are included.

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CE HOT PRODUCT SHOWCASE

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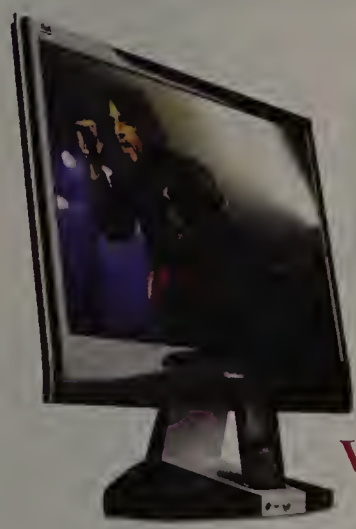

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The Web's Most Useful Sites

BY RYAN SINGEL
ILLUSTRATIONS BY DAN PAGE

You have lots of stuff to get done. And these next-generation services can help with everything from wrangling passwords to throwing a party.

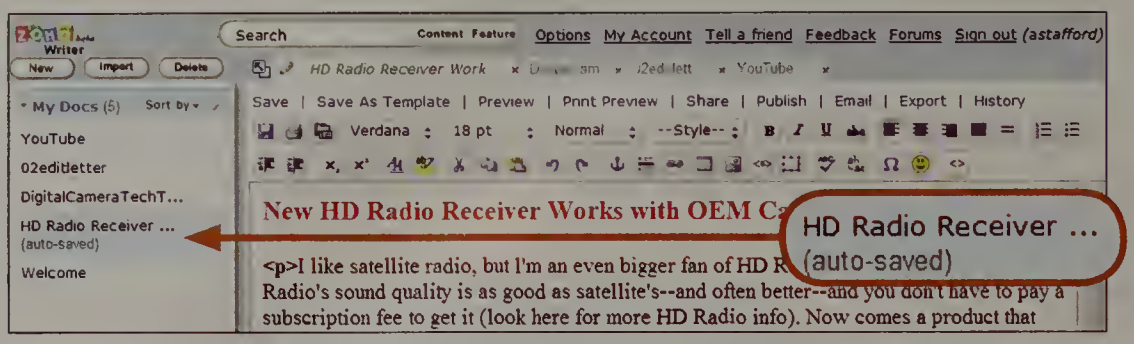
82 WORD PROCESSORS
83 BOOKMARK MANAGERS
83 E-MAIL SERVICES
84 PASSWORD MANAGERS
84 INSTANT MESSAGING
85 USER REVIEW SITES
86 ONLINE SPREADSHEETS
87 ANSWER SITES
88 EVENT CALENDARS
88 TO-DO LISTS
90 MAPPING SERVICES
90 VIDEO AGGREGATORS
92 ONLINE CALENDARS
92 WEB OS SERVICES

PLUS:
85 DESKTOP WIDGETS
87 SERVICE MASHUPS

THE LOWLY BROWSER is becoming the most powerful piece of software on your computer. Despite the promises of chip makers and PC manufacturers, a Web application like Gmail running on a massive server farm thousands of miles away can often be faster and more reliable than the best client-based program.

Developers are pushing browsers to their limits by creating even better online alternatives to desktop apps, ranging from spreadsheets to instant messaging tools to full-blown operating systems.

However, storing your data remotely raises privacy and security ▶



ZOHO OFFERS A plug-in for Microsoft Word that allows you to save documents to Zoho Writer.

concerns, and Web apps that rely on JavaScript are ripe targets for hackers. Browsers still struggle to mimic the interfaces of desktop programs, and no browser yet has an "application mode" that lets it appear on your desktop instead of as just another browser window among ten others.

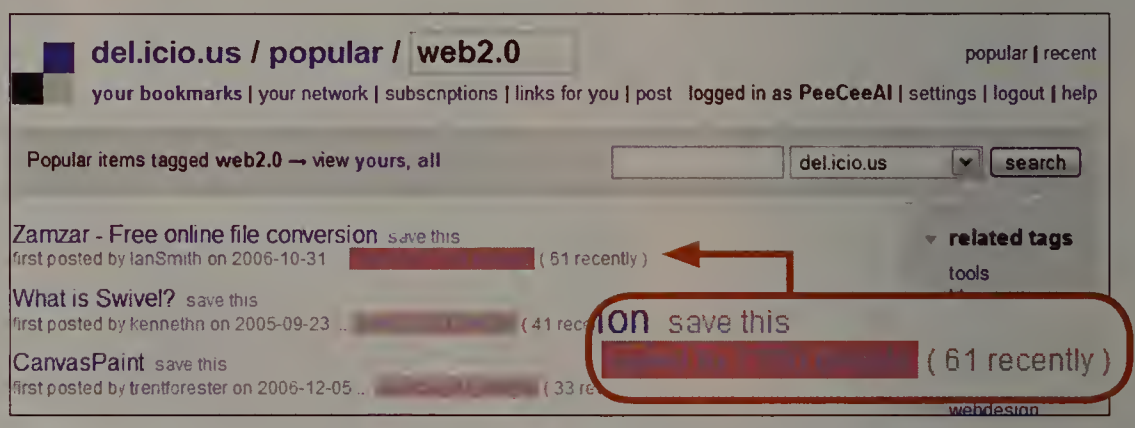
Despite these limitations, innovative, agile, and low-cost Web services are blooming across the Internet's landscape. We looked at the best of the new Web services in 14 categories, ranging from online office suites and other productivity tools to recommendation services and event-listing sites. We found several knockouts, but we also identified a few sites that aren't quite ready to replace old standbys on your desktop.

Along the way we also found some of the best widgets—small desktop applications that pull data from Web sites—and mashups, which combine the best of two sites to make an even better result.

Word Processors

GOOGLE, THINKFREE, AND Zoho offer the only true collaborative online office suites, with word-processing applications at their center. In October, Google combined Writely, an online Ajax-enhanced word processor it bought last spring, with its online Spreadsheets program to create Google Docs and Spreadsheets. (Ajax is a technique used to make Web pages interactive and often "live," meaning that changes display without your having to reload the page.) At the same time, Zoho united the log-ins for its online Ajax-based spreadsheet, word processing, and presentation software and will soon offer them as a complete suite called ZohoX, which it says will be free for individuals.

Each of these Web suites offers you significant functionality, but they all come with a major caveat: None will allow you to back up all your files at once or store copies at a third-party data center. You might therefore want to keep a local copy of every document in the event that the service goes down or you find yourself without a broadband connection.



DEL.ICIO.US LETS YOU easily bookmark your own pages and access pages tagged by others.

WINNER: Zoho Writer (zohowriter.com) features a hideable list of documents divided into sections for private, shared, and public documents, plus templates. Like Google Docs and ThinkFree, Zoho Writer can publish items directly to a blog and can save and import a range of text document formats, from Microsoft Word to HTML. With a plug-in for Microsoft Word, you can save from that application directly to your Zoho account.

It includes most of the common word processing features, from multiple undo to find-and-replace to extensive text formatting. You can also edit the HTML of a document, but the feature is so hidden you must use the search box to find it. Besting both Google and ThinkFree overall, Zoho handles multiple documents in a single window via tabs and lets you embed a Zoho spreadsheet in a Writer document. Modifying the spreadsheet automatically updates the Writer files.

Zoho also offers a version of its software that runs on your own server and that is free for up to ten users. This option may alleviate security concerns about hosting sensitive business documents outside the office firewall.

RUNNER-UP: Google Docs and Spreadsheets (docs.google.com), the new face of Writely, has a clean, if sterile, blue-and-white interface with a single row of icons across the top of the text window. Strong points include automatic versioning (and you can compare versions wiki-style) and easy access to the HTML code. You can upload documents via e-mail, and if you and a coworker open the same document on different systems to collaborate on it, changes made on either system immediately appear on the other.

Many of the most common word processing functions are here, but Docs and Spreadsheets suffers from not having built-in functions for text search or find-and-replace. When you open multiple documents, they have to be in separate browser windows. Oddly, neither Google Docs and Spreadsheets' spelling checker nor Zoho's recognizes its own parent company's name during the check.

ALSO-RAN: ThinkFree (www.thinkfree.com) offers both a light document editor that is barely useful and a Java-based power editor that looks and feels like a full-blown desktop application. Though the latter relies on a big Java applet to run (one that takes 30 seconds to load on my system), it supports headers, footers, field codes, and almost every other feature in Microsoft Word (including AutoCorrect).

However, unlike Google Docs and Zoho Writer, ThinkFree gives you no way to open multiple documents or to collaboratively edit documents simultaneously.

Bookmark Managers

BEING ABLE TO access your Internet bookmarks on any computer is handier than e-mailing links to yourself. But what really makes an online bookmarking site useful is its social networking aspect: The ability to share bookmarks with friends, coworkers, and even strangers.

WINNER: On **Del.icio.us**, the original social bookmarking site (now owned by Yahoo), the most popular page features the latest and geekiest tech news as bookmarked and tagged by the site's 1 million registered users. You can use the site to find recipes, podcasts, or the most relevant pages in topics you're interested in.

While it may be hard to remember how to spell the name, using Del.icio.us simply requires two toolbar links—one for your list of links, and the other for adding and tagging pages. It uses a Craigslist-like interface with one field for notes and another for tags. To make things easier for you, Del.icio.us suggests tags for a bookmark based on other users' tags. Since tags are the only organizing method, finding a link later can be hard if your tags aren't consistent. You also can import and export bookmarks, keep tabs on other users' links, and mark certain links as private, though this last feature is difficult to turn on.

MA.GNOLIA.COM IS PRETTY, but fewer people use it, so it's not quite as useful as hard-to-type competitor Del.icio.us.

RUNNER-UP: Magnolia (ma.gnolia.com) is Del.icio.us's younger, prettier sibling; it requires only a single toolbar link. Conveniently, Magnolia grabs a Web page's description from the underlying HTML and automatically adds it, so you need only to tag the item. Other useful features include a quick five-star rating system and a "Keep Private" button that is displayed by default. And like Del.icio.us, Magnolia easily imports and exports bookmarks. But with a smaller user base, Magnolia's library of shared bookmarks isn't as useful as Del.icio.us's.

RUNNER-UP: StumbleUpon (www.stumbleupon.com) is an odd social bookmarking site whose real purpose is to show you new sites without your having to search for them. You have to install a toolbar with a button that, when clicked, takes you at random to cool sites in categories that you select, ranging from ▶

E-MAIL

WEB MAIL OFFERS BIG STORAGE, DESKTOP-LIKE FUNCTIONS

Modern Web-based e-mail gives you much of the functionality of Outlook, and you can access it from almost anywhere.

	E-MAIL SERVICE	Features	Best feature	Bottom line
Winner	Yahoo Mail Beta mail.yahoo.com	• Two- or three-pane views • 1GB storage • Has mobile version	Can open and easily switch among multiple messages in the same pane.	Yahoo's beta resembles traditional desktop e-mail programs, allowing you to sort mail by date or sender, resize fields, keep detailed contact information, scroll through messages with keyboard shortcuts, and create rules to sort messages. It's powerful and elegant, though slower than Gmail.
Runner-Up	Windows Live Mail Beta mail.live.com	• Three-column, two-column, or three-pane views • 2GB storage • Has mobile version	Safety bar at top of messages warns of phishing e-mail and blocks images from unknown senders.	Microsoft's beta is feature-packed, with on-the-fly spelling checking, skins, and the ability to send and receive from multiple accounts. You can drag and drop as well as rely on old-school check boxes. Longtime Web mail users and novices will feel comfortable, but the banner ads and clumsy calendar integration seem dated.
Runner-Up	Gmail gmail.google.com	• Two-column view • 2.6GB storage • Has mobile version	Can play MP3 audio attachments and open Excel spreadsheets.	Gmail is lightning-quick, lets you chat with other online Gmail users, and integrates nicely with Google's calendar. But its limitations—the inability to add new folders, to open multiple messages in one window, to filter e-mail, and to right-click on anything—will surely frustrate power users.
Also-Ran	AOL Mail mail.aol.com	• Two-column view • 2GB storage • No mobile version	You and 99 friends can get e-mail addresses at any available domain.	AOL Mail lets you drag and drop messages and gives you a handy pull-down menu next to every message. But that's as far as the recent upgrade goes. The service lacks mail sorting rules and keyboard shortcuts, it loads interminably slowly, and messages open in external windows, creating clutter.
Also-Ran	Web2Mail Lite web2mail.com	• One-column view • Unspecified storage • No mobile version	Can track when a Web site changes and send you an e-mail alert.	Web2Mail Lite lets you check a POP3 account and send and receive mail, but beyond that the site lacks folders, drag-and-drop capability, and even an address book and a sent-item folder. It also has an abysmal spam filter.

Chess to Geoscience to Arthritis. You can then vote the site up or down, review it, and choose to add it to your bookmarks list. You can also bookmark any site without ever leaving the page via the toolbar, although the process is not intuitive.

You have to hunt in StumbleUpon's preferences menu to turn on its best feature, Search Links, which appends user ratings and reviews to Ask.com, Google, Live.com, or Yahoo search results.

StumbleUpon's main drawbacks are its busy interface, its continual insistence on your joining its social network, and the necessity of installing yet another toolbar. Fortunately, you can minimize the toolbar and use keyboard shortcuts to stumble and to vote sites up or down; unfortunately, the service gives you no shortcut to simply bookmark a page.

ALSO-RAN: Furl (furl.net) saves a local copy of every page you bookmark on its site, and it's the only one of the three sites here to index the full text of these pages so you can search them. Nevertheless, Furl's relatively drab interface makes it feel like a mid-1990s tool for librarians.

Password Managers

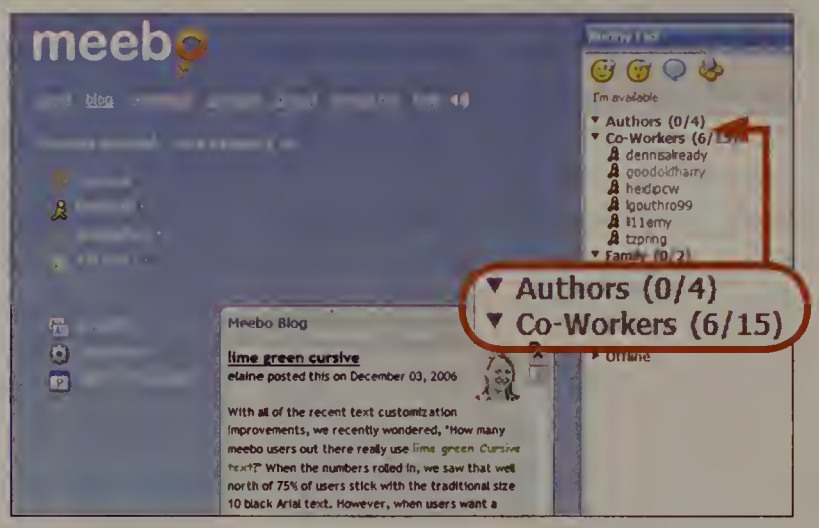
NEW WEB SERVICES have inevitably led to an overflow of log-ins and passwords, which many people cope with by foolishly reusing passwords or creating an unencrypted password file. A better solution is an online Web service that can help you organize your passwords and let you access them at a moment's notice.

WINNER: Just1Key (just1key.com; $2.49 per month) is the only online password service with real security. To prevent hackers from grabbing your passwords, Just1Key uses a Java applet in a browser window, into which you enter your central password; the applet encrypts the password before sending it to the server. Once that's authenticated, Just1Key sends your passwords list back to you in encrypted form; the applet then decrypts the list so you can read it.

You can cut and paste passwords as needed, but the software is bare-bones. Passwords reside in a single list, which can be unwieldy. You get no search, import, or export functionality, but you can access your passwords on a mobile device, as long as its Web browser is capable of an SSL-based log-in.

RUNNER-UP: A free service founded in 1998, **PasswordSafe** (www.passwordsafe.com) relies solely on SSL for password transmission; there's no indication about what kind of encryption it uses on the server side. The interface—wisely free of JavaScript—is uncluttered, has a search function and a password generator, and lets you create categories.

While the last feature makes this site a great way to store registrations for nonsensitive sites such as bookmark managers, it isn't really secure enough to store sensitive info like bank account passwords.



MEEBO.COM LETS YOU access several different instant-messaging services, using either a full browser window or a floating buddy list.

ALSO-RAN: Agatra, whose site (www.agatra.com) is still in beta, says it encrypts passwords using the industry-standard Blowfish algorithm, but it expects you to log in on an unsecured home page. Once you sign in, Agatra sends your passwords via an SSL connection to your browser. For the most popular sites, Agatra will automatically log you in.

While this setup is handy, the convenience may not make up for the security weaknesses raised by the site's reliance on inherently vulnerable JavaScript.

Instant Messaging

INSTANT MESSAGING ISN'T just for kids anymore. For many people, it's become an indispensable tool for collaboration in the office and an informal way to make plans and check in with family members. Unfortunately, instant messaging, unlike e-mail, has no agreed-upon standards, so if your kid uses AIM and your boss uses Yahoo Messenger, ordinarily you have to create multiple accounts and run multiple IM applications on your computer. A couple of new IM Web clients, however, can help you sidestep those issues.

WINNER: Meebo (www.meebo.com), the best of the new Web-based IM services, lets you sign into AIM, Google's GTalk, ICQ, Jabber, MSN, and Yahoo Messenger simultaneously. While the site is open to anyone, registered users can store their log-ins and passwords and be logged in to all the services automatically.

YELP.COM IS A hip, popular recommendations site with tons of restaurant reviews; you can bookmark and share favorite eateries.

Meebo has a graceful design that lets you run multiple chats inside a single browser window, or you can open the contact list and chat in small pop-up windows. In single-window mode, a contact list clings to the right side of the browser. You can rearrange or minimize chat windows inside the browser. Meebo supports basic font formatting, chat logging, and emoticons, as well, though the lack of a clickable send button is odd.

Security is a concern; you might not want to share your passwords with a third party, and Meebo lacks support for encrypted chats—so you may not want to use it to hold sensitive conversations over a Wi-Fi connection. But as long as you aren't discussing your company's top-secret strategy, it's a great alternative to running multiple desktop IM clients.

RUNNER-UP: KoolIM (koolim.com) goes the pop-up route: It opens new browser windows for your contact list and for each chat session. When someone messages you, a chat window pops up just as in traditional IM software. However, KoolIM's alpha still lacks some basic features, such as chat logging, time stamps telling you when a message arrived, and buddy icons; the service also has the same security issues as Meebo.

ALSO-RANS: The Web-based services from the four main IM networks—**AIM**, **ICQ**, **MSN**, and **Yahoo Messenger**—let you chat without their desktop clients but not outside their networks.

User Review Sites

WHILE PROFESSIONAL CRITICS can be great guides, there's much to be said for the wisdom of your neighbors—if you can tap that wisdom. Sites such as Citysearch and Yahoo Local have struggled for years to get people to submit reviews of restaurants and local venues, with mixed success. But a newcomer may have solved that problem by striking the right note with users and thereby generating the needed participation.

WINNER: Yelp (www.yelp.com), a San Francisco–based startup with a focus ▶

HANDY MINI-APPS

BEST WIDGETS FOR YOUR DESKTOP

WIDGETS, GADGETS, OR gizmos—call these small applications what you like, but they can transform your desktop into a cockpit, complete with analog clocks, performance meters, and calendars. Don't wait for Vista's Sidebar Gadgets, because Google, Opera, and Yahoo already offer excellent, free widget engines.

Few of the 505 available Google Desktop Gadgets (desktop.google.com) are visually stunning, but the low-key approach is perfect for things that are constantly alerting you to messages and meetings. The RAM hit on my PC for the engine with a few gadgets running seemed high at 35MB, but that included desktop search.

Yahoo Widgets (widgets.yahoo.com) offer a much wider selection—nearly 3200 widgets—and many are quite flashy. They can sit under, over, or around other application windows. Pressing <F8> brings them all up in a single pane. Memory usage varies, but you should budget about 12MB per widget.

Opera Widgets require only that the Opera browser be open; you can add widgets straight from the browser's toolbar (go to www.opera.com for the browser). The selection is heavy on games and light on productivity tools. RAM usage varies from minuscule to truly obscene, as with some of the widgets that use video.

Here are just a few of the widgets we like:

Google Calendar V2 (find.pcworld.com/55815): For Google Calendar users, this gadget with a default monthly view allows you to see your scheduled events for the day, to quickly view another day's appointments, and to create new events. The current version lets you see either personal or work calendars, but it offers no reminder function—a fairly significant omission.

Informer (find.pcworld.com/55816): This Yahoo widget keeps track of 21 key PC performance indicators, including memory, Wi-Fi signal strength, laptop battery life, and number of unread e-mail messages, all in a bar that docks above the taskbar.

PasswordMaker (passwordmaker.org): This cool tool generates secure passwords by combining a Web site's URL and your master password, and then applying a hashing algorithm. While the software doesn't store the password, even if you use the widget on multiple machines, you can re-create each password by reentering the site URL and your master password.

Mini iTunes Remote (find.pcworld.com/55817): Though this handy Yahoo gizmo resembles a silver version of the controls on a Shuffle player, it lets you rate tunes, change songs, and adjust the volume without switching to the full player.

Opera Dotoo (find.pcworld.com/55818): With this simple to-do list creator from Opera's bag, you can create multiple lists and check off items as you finish them in a small panel that adjusts its size according to the number of active lists.

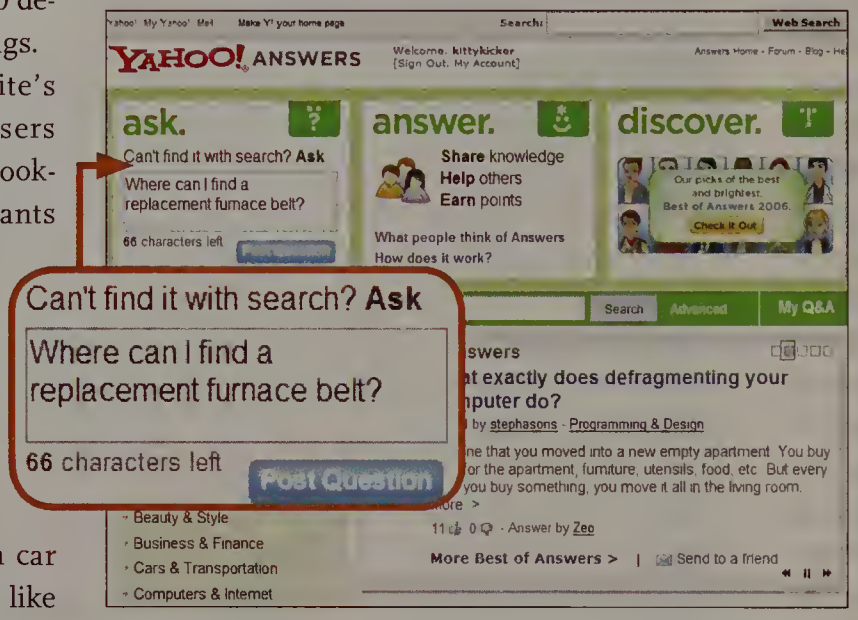
on food reviews, seems to have figured out the magic formula. It combines a pretty interface; social networking features that, for example, let you send kudos to other reviewers; and a sense of community that brings food lovers together. Each listing displays a map and, in the cases of popular restaurants in major urban areas, 50 to 200 detailed reviews with star ratings.

Anyone can read the site's reviews, but registered users (membership is free) can bookmark their favorite restaurants and assemble a network of reviewers with tastes similar to their own.

Though mostly focused on restaurants, Yelpers have started to add reviews of mechanics, furniture makers, dentists, and even car washes. Even smaller cities like Poughkeepsie, New York, now have some local reviewers.

RUNNER-UP: Angie's List (www.angieslist.com), by contrast, charges users $6 a month to read and write reviews of home contractors. The number and quality of reviews varies in the 80 cities Angie's List covers, but larger metros have some very good recommendations, and the $6-a-month fee can easily be recouped if you save $100 on a plumber.

The site feels dated and could use some interactivity. For instance, it gives you no way to rate another person's recommendation, subscribe to their reviews, or ask other people for suggestions.



YAHOO ANSWERS LETS you ask even oddball questions—and it's so active, chances are someone will know the answer.

RUNNER-UP: Yahoo Local (local.yahoo.com) is a bit of a disappointment. The site nicely interweaves snippets of restaurant reviews from local newspapers and professional review sites with user reviews, but simple ratings are more common than full-fledged reviews. The site, which includes reviews of mechanics, restaurants, dry cleaners, and a wide range of other services, allows you to vote on other people's reviews, bookmark pages, and send information to your cell phone.

All that may sound appealing, but Yelp's energy puts Yahoo Local's personality-free site to shame. Yahoo Local reviews tend toward nondescriptive tags such as "good and cheap," while Yelp users may spend a paragraph describing an appetizer.

RUNNER-UP: Citysearch.com, the oldest player in online reviews, combines paid professional reviews of a wide range of businesses, including restaurants, spas, and hotels, with user opinions. Its best feature is the inclusion of handy insider tips, such as which tables to grab for people watching. While Citysearch lets users bookmark sites, you have no way to bookmark your favorite reviewer. And though the breadth of listings is good and user participation is fairly high, it lacks the community feel and vitality of Yelp.

CALCULATIONS

WEB-BASED SPREADSHEETS CRUNCH NUMBERS REMOTELY

Only Google Documents and Spreadsheets allows multiple people to work on the same document at the same time.

	SPREADSHEET	Features	Best feature	Bottom line
Winner	Google Documents and Spreadsheets docs.google.com	• Real-time collaborative editing • Maximum of 20 sheets per spreadsheet • No charts	The service instantly saves documents.	The lack of charts is a glaring omission, but the app's speed and instant saving of changes make it stand out. Its robustness and features—like the ability to freeze header rows, its unique capability to let you collaborate with others in real time, and integration with Google's word processor—all make this a great choice for business use.
Runner-Up	Zoho Sheet sheet.zoho.com	• Document sharing • Maximum of 101 sheets per spreadsheet • 4 basic chart templates	A panel lists all your spreadsheets and lets you switch documents quickly.	Zoho Sheet's clear icon-based controls, snappy response, intuitive keyboard navigation, graphs, and sharing options (which let you decide who can read particular worksheets in a document) make this an excellent tool for collaboration. It should improve as Zoho adds real-time collaboration and integrates it with other office offerings.
Also-Ran	ThinkFree thinkfree.com	• Document sharing • Maximum of 101 sheets per spreadsheet • 14 powerful chart templates	Java-based power-editing mode makes it feel as good as or better than Excel.	ThinkFree uses a client-side Java applet for power editing, which means that it's mostly running on your computer, rather than on the Web. It's part of a powerful Web suite, but it requires a plug-in to work, and its reliance on an applet for the heavy lifting makes it slow.
Also-Ran	NumSum www.numsum.com	• Document sharing • Maximum of 1 sheet per spreadsheet • 3 basic chart templates	Spreadsheets are public by default and allow commenting, tagging, and rating.	NumSum is inappropriate for serious business applications due to its inability to highlight multiple cells, its cut-and-paste limit of just a single cell, and its lack of support for multiple worksheets. Despite those limitations, it has a surprisingly wide range of features and is easy to use.

Answer Sites

THE WEB HAS sites where you can ask nearly any reasonable question—such as "What's the best way to schedule backups for Windows XP?" or whether to break it off with a flaky boyfriend—and get multiple useful answers from strangers within hours, if not minutes. Free advice is supposed to be worth what you paid for it, but some of these sites may have you rethinking that adage.

WINNER: The most well-developed answer site is **Yahoo Answers** (answers.yahoo.com). Anyone with a Yahoo ID can post or answer questions, which get funneled into diverse categories ranging from amusement parks to taxes in India.

A rudimentary point system deducts points for asking questions and rewards you for answering questions.

Answers come astonishingly quickly, and they seemed surprisingly good. A question about whether to overclock a new Intel processor garnered three answers in less than 5 minutes, while one about what fertilizer to use for a potted lime tree came in about 15 minutes.

RUNNER-UP: Microsoft is working on its own tag-based answers site called Windows **Live QnA Beta** (qna.live.com). Although answers were somewhat tough to find, QnA users responded nearly as quickly as Yahoo Answers users.

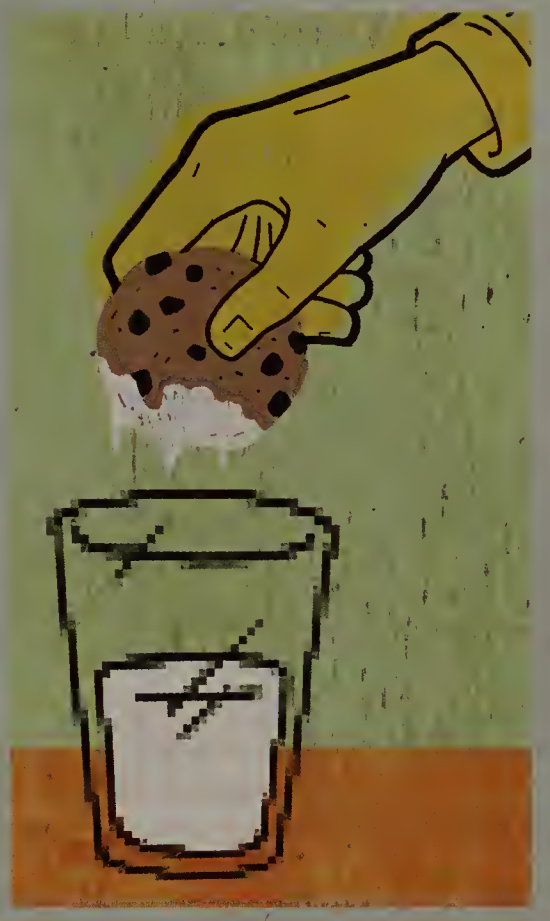
Not surprisingly, queries about Microsoft products brought out the best in QnA members. One about how to schedule backups and disk defragmenting for Windows XP received four answers, including how to use XP's built-in tools, how to run a defrag multiple times via a batch file, and a suggestion for an automated Web backup service.

Even the nontechie questions I asked about magazine recommendations and lime-tree fertilization, however, returned relevant and timely answers.

ALSO-RANS: Metablog site **Ask MetaFilter** (ask.metafilter.com) has some very smart people answering quirky questions, but it costs $5 to join. Israeli startup **Yedda** (yedda.com) lets you sign up ▶

TWO ARE BETTER THAN ONE

MASHUPS MAKE THE MOST OF THE WEB



MASHUPS ARE THE online equivalent of dunking a cookie in a glass of milk: The combination of data from one Web site with that of another is so-o-o much better than each is on its own. The best tend to use maps, such as one of the earliest—and still outstanding—mashups, **HousingMaps** (www.housingmaps.com). The site plots Craigslist's homes for sale and apartments for rent on a Google Map and allows you to preview a listing by simply clicking on one of the pushpins. It was so good, Google hired its creator, Paul Rademacher.

Here are five more of the best mashups we found:

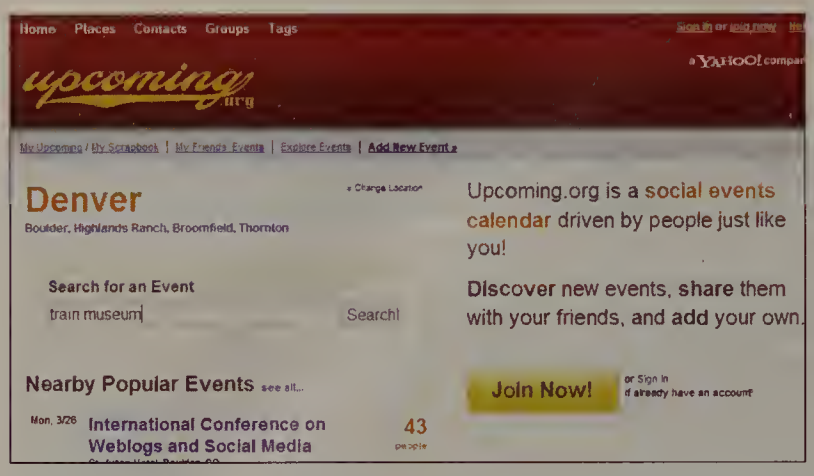
Pubwalk (www.pubwalk.com): This site combines bar listings and reviews from Citysearch with a Google Map. Each pushpin has a pop-up window with bar or restaurant information, including a rating and a thumbnail picture. You can use the service to plot out a bar crawl and either print out directions or see them on your phone.

Weather Bonk (www.weatherbonk.com): Here you can see detailed local weather reports, traffic data, and weather cameras for cities around the world on a Google Map. While Weather Bonk is far from the prettiest mashup, the traffic data in car-centric cities like Los Angeles and Atlanta could save you hours of frustration, and the Web cameras let you see weather conditions from Seattle to Paris.

Pandora FM (find.pcworld.com/55819): This homebrew site allows you to submit the songs you like to listen to, through Pandora's music categorizing and suggesting service, to Last.FM, a site that monitors the songs you play on your computer. Pandora is a fantastic way to discover new music: You first create a radio station of your favorite bands or songs, and then the service suggests and plays artists in the same vein. The mashup permits you to tag and remember the songs, and later have Last.FM play back just your favorites.

Google Transit (www.google.com/transit): This mashup, cooked up in Google Labs, lets users plan public transportation trips in Eugene and Portland, Oregon; Honolulu; Pittsburgh; Seattle; and Tampa, Florida. After you supply two addresses, the planner will give you directions that combine walking, buses, and trains, and will approximate travel times and fares. You even get to see a handy comparison of what it would have cost you to drive instead.

Mappr (mappr.com): Hackers have done wonders with the open interface of image-hosting site Flickr (even building a Sudoku game). But Mappr, the most attractive of these mashups, lets you choose a tag and see the results plotted on a map of the United States using geo-tags embedded in the photos. While a little slow, searches like "beach" or "Route 66" show the hidden patterns buried in metadata.



EVENTS SITE UPCOMING.ORG may not list as many events as other sites, but its community members are far more social.

for keywords and be e-mailed when a question matching your expertise hits the system (as with all these services, you can both ask and answer questions); so far it remains only lightly trafficked, however.

Event Calendars

FINDING SOMETHING TO do on a Friday night has long been a process of searching your local newspapers or subscribing to e-mail lists of bands or theaters. Now a trio of startups are attempting to make finding events and adding them to your busy social schedule easier.

WINNER: Yahoo's **Upcoming.org** has listings from around the world thanks to its devoted users, who add tons of local events, as well as to the recent inclusion of events from Yahoo Local's listings.

Upcoming has a social networking feel, and every event has a listing of users who say they plan to attend. You also can click on a user's name to see what other events that person plans to attend. While the site feels both basic and cliquish, it is the most active events site on the Web.

Despite the addition of millions of Yahoo Local listings, Upcoming found only 28 listings for San Francisco art openings on the weekend we checked (Zvents found more than twice as many). Still, adding events to your calendar is simple, and Upcoming offers e-mail and text-message reminders.

RUNNER-UP: Zvents (www.zvents.com) has the most full-featured and user-friendly event service on the Web. The site offers a search engine that understands terms such as "this weekend," descriptive listings, and an embedded Google map.

With just a simple click, Zvents' great interface permits you to add events to your Zvents calendar, or to your AOL, Google, Outlook, or Yahoo calendar. Users also can invite people to events, add them to a group calendar, and easily post events to a blog.

A search for "art opening" in San Francisco on one weekend showed 68 relevant matches. Unfortunately, Zvents relies mostly on user-submitted events in most cities, and few users comment on events. Expect Zvents to take off once it automatically populates listings in other cities.

ALSO-RAN: Eventful (eventful.com), another San Francisco Bay Area–based startup, has deep listings, but the search function is too literal: A search for "rock" in San Francisco over a whole week uncovered merely eight listings, only one of which was actually a rock-and-roll performance. One plus: Eventful supports Microsoft's innovative Live Clipboard service, which allows you to cut and paste event data between Web sites.

REMEMBER THE MILK lets you organize to-dos in tabs and call up today's tasks, tomorrow's tasks, or overdue tasks.

To-Do Lists

THE OLD-FASHIONED TO-DO list, which lets the brain concentrate on the task at hand rather than on others in the future, remains one of the world's best productivity tools. These fresh new sites let you keep track of your obligations and prompt you to keep up the pace.

WINNER: RememberTheMilk (www.rememberthemilk.com) reinvents the to-do list in a snazzy interface that lets you make lists in configurable categories, all laid out on the front page as tabs. Adding to-dos is easy, though adding deadlines, notes, and time estimates is unintuitive.

You can add to-dos using natural language such as "Call Ted next Thursday," sync with your calendar via the widely supported iCalendar format, and set tasks such as "Pay credit card bill" to recur. RememberTheMilk sends reminders through instant message, e-mail, text message, or a combination of these. You can also upload tasks via a special e-mail address that the site gives you.

It's a tremendously well-rounded free product, with neither more nor less than you need to get and stay organized.

RUNNER-UP: Hiveminder (hiveminder.com) is a bit prettier than RememberTheMilk and relies on tags, rather than categories, to group tasks. While you can't set the time and date for tasks using natural language, you do get a nice drop-down calendar, and you can easily edit or add tags to a group of tasks.

Hiveminder syncs with external calendars, publishes RSS feeds, and lets you e-mail tasks, but the only notification it offers is a once-a-day e-mail. In addition, tags are more difficult to track than categories, and while Hiveminder has a more intuitive interface than RememberTheMilk, it doesn't feel as useful in practice.

ALSO-RANS: Those who prefer minimalism will love 37 Signals' **Ta-Da List** (www.tadalist.com), where you can build multiple to-do lists. It allows no tags, categories, or time elements—just lists ▶

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of tasks with check boxes. You can make the list public or subscribe to it as an RSS feed, but it won't send you reminders.

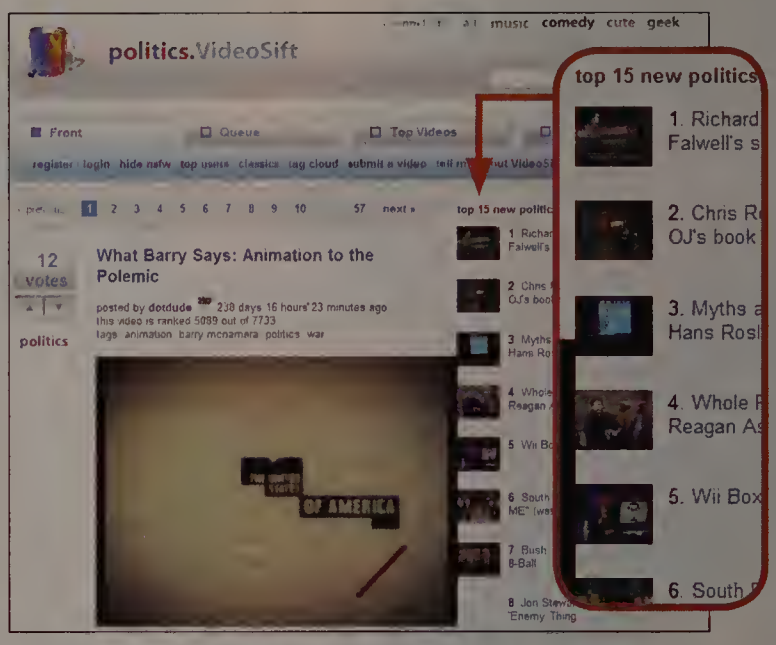
Backpack (www.backpackit.com), Ta-Da List's older sibling, lets you create five shared pages that can include to-do lists, notes, and a shared wiki-style document. It will send you up to ten reminders via e-mail or text message, but these are oddly separate from tasks, which, as in Ta-Da List, have no time element.

Video Aggregation Sites

THOUGH YOUTUBE IS the best-known video sharing site, plenty more sites feature free clips of crazy lip syncing, Mentos fountains, and even the odd useful how-to video. People are uploading hundreds of thousands of clips every day—how do you sort through them all?

Luckily, other sites will find the best and coolest clips for you. A couple of these sites even let you bookmark and categorize your favorites.

WINNER: VideoSift (www.videosift.com) is a video site based on community submissions and voting. The site currently caters mostly to the taste of the geek-and-college crowd, but that should change with time. Here you can mark favorites, comment, vote on clips, and share videos. You can't become a fully privileged user until you submit a video that receives at least five up-votes (probationary users don't get as many voting rights). But finding a good submission shouldn't be too hard, and this site is cool enough to warrant putting in the effort.



VIDEOSIFT GIVES VIDEOS a community flavor—you can vote and comment on videos, and mark and share favorites.

RUNNER-UP: VDiddy (www.vdiddy.com) is the perfect first stop for some post-lunch entertainment. It provides no log-in, bookmarking, or commenting, simply a front page that features the top 12 videos of the moment from 11 different video sharing sites, including all the biggies. A vertical bar on the left lets you switch among the different sites. Hover your mouse over a clip thumbnail to enlarge it slightly; click on it, and it will play in an embedded player.

RUNNER-UP: Dabble (dabble.com), by contrast, is a social networking site that lets you organize, collect, comment on, and share video clips from around the Web. Using a toolbar link, you can bookmark clips from various sites. You can then tag them and make or view sharable playlists. Dabble can't bookmark videos embedded in a Web page, however, ▶

DIRECTIONS

MAPPING SITES DO MORE THAN JUST GIVE DIRECTIONS

The best online maps give you great directions and imagery, and easy access to business (especially restaurant) reviews.

	MAP SITE	Features	Best feature	Bottom line
Winner	Google Maps maps.google.com	• Road, satellite, and hybrid views • Multisource reviews • Point-to-point driving directions	A business's location bubble shows a phone number and a link to reviews.	Google's speed, integration of reviews from sites like Yelp, and high-quality images make it the best choice, but other contenders are getting close.
Runner-Up	Ask.com Maps and Directions maps.ask.com	• Road, satellite, and topographic views • No reviews • 10-waypoint walking/driving directions	You can drag location markers on the map and have directions updated instantly.	Ask.com's exceptional overlay of streets on satellite images and handy walking directions shine; but its lack of business searching and reviews, and its slow performance in rendering maps and computing long-distance directions, make it a second-fiddle choice.
Runner-Up	Windows Live Local maps.live.com	• Road, satellite, and bird's-eye images • No reviews • Point-to-point driving directions	You can add pushpins to a map and save them for future reference.	Microsoft's offering includes live traffic, stunning birds-eye (close-up) views, a great wide-screen view, one-click orientation change, and extensive sharing and saving functions. But the interface is busy, the business search is weak, and many features—not surprisingly—don't work in the Firefox 2.0 browser.
Runner-Up	Yahoo Maps Beta maps.yahoo.com	• Road, satellite, and hybrid views • Reviews only from Yahoo Local • 10-plus waypoint driving directions	A thumbnail map allows you to reposition the detailed main map.	Yahoo Maps Beta relies on Flash, not JavaScript, which makes the initial load time longer but allows for a pretty interface. Yahoo integrates traffic data well, but its satellite imagery lags behind competitors, and it's not nearly as accurate in finding places by name as Google.
Also-Ran	MapQuest www.mapquest.com	• Road, satellite, and topographic views • No reviews • 10-point driving directions	Makes creating directions that avoid toll roads or highways very easy.	The original mapping site, MapQuest has finally updated its service to include now-old-hat draggable maps and satellite imagery. But the satellite imagery is of low quality compared with that of other sites, searching by business name is hit-and-miss, and the ads on three sides of the map are distracting.

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and if you attempt to bookmark a video on Dabble before the video ends, Dabble restarts it.

ALSO-RANS: Digg (digg.com) has an active video voting site, but the top clips tend to linger too long. Voting site **Video Bomb** (www.videobomb.com) accepts Flash, QuickTime, and Windows Media videos for upload—but it has no critical mass of submitters yet.

THE YOUOS WEB-BASED operating system provides you with applications, a notepad, a Flickr-based image feed, and chat.

Web Operating Systems

THE IDEA OF a Web operating system hearkens back to the model of dumb terminals reliant on a central server that runs every program. Though that model was largely supplanted by PCs, powerful server farms, such as the one feeding Google's search, easily surpass any home system. A Web OS, paired with a PC's ability to install specialized programs locally, may well be computing's future.

WINNER: YouOS (www.youos.com), launched in 2005 by refugees from Oracle but still in alpha mode, lets you surf the Web via a browser-within-a-browser window, read RSS feeds, create text documents, and use a Nintendo game emulator to play titles like Donkey Kong.

It's mostly a playground for developers right now, and it isn't very fast, but it is free—and running, say, Zoho Writer inside a Web browser that runs on an outside server through a browser running on your PC is oddly thrilling.

RUNNER-UP: EyeOS (eyeos.info) is an open-source, free application that comes with a full-featured word processor, a basic calendar, a rudimentary Web browser, and an RSS reader. You can use the hosted version of EyeOS or install it on any Web server. Like YouOS, however, it runs slowly.

ALSO-RAN: By contrast, **Desktoptwo** (desktoptwo.com) relies heavily on Flash and Java to pull off its desktop imitation. Though it supplies no browser, the desktop includes a full suite of OpenOffice applications, an MP3 player, and Adobe Acrobat Reader, and it offers a 1GB virtual hard drive.

While Desktoptwo may be the most useful of the three services—thanks to its full-powered applications and its potential role as a document- and music-storage center—its dependence on Flash and Java puts most of the computing burden on your PC, while the others rely on the computing power of servers. ■

Ryan Singel is a freelance writer based in San Francisco.

TIME MANAGEMENT

WEB-BASED CALENDARS SNIFF E-MAIL, SEND TEXT ALERTS

These sites help you track appointments, import events, and share with others, and will send SMS reminders to your phone.

	CALENDAR	Features	Best feature	Bottom line
Winner	30 Boxes 30boxes.com	• Private, shared, and public events • Can subscribe to public iCal feeds • E-mail/SMS alerts	Automatically pulls in data from MySpace, Flickr, Upcoming.org, or any RSS feed.	While you can't drag and drop events in 30 Boxes, you can tag them for sharing with others on social networking sites, and you need only click on a day to add an event and map appointments. It's the prettiest of the calendars, though you can't see a daily or weekly view. E-mail client integration would be useful.
Runner-Up	Google Calendar www.google.com/calendar	• Private, shared, and public events • Can subscribe to public iCal feeds • E-mail/SMS alerts	Check boxes make seeing or hiding multiple calendars on one page easy.	Google has integrated its Calendar with a Google Desktop gadget, and the software detects events in Gmail messages. You can send invites with RSVPs when you add an event. The interface separates work, holiday, and personal calendars by color. A great choice for Gmail users, but other calendars have more features.
Runner-Up	Yahoo Calendar calendar.yahoo.com	• Private, shared, and public events • No iCal support • E-mail/SMS/Yahoo Messenger alerts	When inviting others to an event, you can check their calendars for availability.	While visually boring, Yahoo Calendar syncs with external apps like Outlook and Palm Desktop, integrates with Yahoo Mail for sending invites, and has a full complement of event options, including 28 preset categories such as Meeting and Travel. However, it will not allow you to import public calendars.
Also-Ran	Spongecell spongecell.com	• Private, shared, and public events • Upload static iCal appointments only • E-mail/text message alerts	Dragging and dropping events makes rearranging your schedule simple.	Spongecell understands natural language such as "choir practice every other Tuesday" and lets you associate maps, URLs, and images with events. You can also embed a Spongecell calendar into any Web page, and you can add events via e-mail, but the navigation is clunkier than on other sites.
Also-Ran	Windows Live Mail Calendar mail.live.com	• Private, shared, and public events • Subscribe to Microsoft Calendars only • E-mail alerts	Adding nonstandard, recurring events is easy with the included event wizard.	Live.com's calendar is largely an add-on to the Live.com e-mail service, but currently the mail service doesn't detect events in messages. While the basic task list is a nice addition, the banner ad takes up too much space, and you can't access your e-mail contacts when sending invites.

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SAMSUNG'S SLIDER-STYLE IP-830w (left), RIM's candy-bar BlackBerry 8703e (right), and Nokia's clamshell E70 (bottom) illustrate the varying forms of PDA phones.

Smart Phones get Smarter

With big screens, QWERTY keyboards, and fast Net connections, sleek phones are packing PC-like power. **We'll help you choose the right one.**

BY CHRISTOPHER NULL
TESTING BY THOMAS LUONG
PHOTOGRAPH BY JOHN KUCZALA

TEST Center

JUST ABOUT EVERY cell phone maker now offers a PDA phone—and my, how they've grown. No longer just workhorses for high-powered professionals, PDA phones offer more versatility than ever, with many models boasting a high-quality camera, media players, and full-color Web browsing capabilities.

We looked at the latest crop of PDA phones to see which ones were at the top of their game. But what separates a regular cell phone from a PDA phone, anyway? Many cell phone vendors claim that their offerings are "smart phones," meaning phones that can access e-mail. For our review, however, we set out some basic criteria that each phone had to meet. First, it had to come with a full QWERTY keyboard (which meant that some impressive devices such as the BlackBerry Pearl failed to make the cut); second, it had to run an operating system capable of supporting at least some basic productivity applications.

NOKIA E62

THE E62 FEATURES a spacious keyboard with wide, flat keys that make typing very comfortable.

PDA phones have a huge range of capabilities, and selecting a handset means weighing the features you care about most. First consider how well the device handles calls. PDA phones are bigger and bulkier than standard cell phones, but they should still be comfortable to hold against your ear. Also look for a device that meets your needs. If you want to edit documents, don't buy a BlackBerry; it lets you view documents, but its OS has no editing applications. And don't forget that some QWERTY keyboards are roomier than others.

High-speed data access, commonly known as third-generation or 3G service, is yet another important issue to weigh. The technology can provide transfer rates of 350 kilobits per second or more, approaching wired-broadband speeds. This kind of performance can be crucial if you send large files via e-mail or spend a lot of time browsing the Web on your phone. Sprint's and Verizon's 3G network is called EvDO, while Cingular's is known as HSDPA. Both Cingular and T-Mobile offer EDGE service—a 2.5G data network (not a true 3G service) that commonly reaches about 100 kbps.

Put simply, some phones are built for work, and others for play. Be sure to choose accordingly.

Nokia E62

Best BUY

THIS NEWCOMER TO the PDA phone scene has quickly emerged as a top contender thanks to a bevy of features and an impressive keyboard. Available from Cingular, this handset lacks high-speed HSDPA support (though it does support EDGE) and has a few interface quirks, but it's one of the most capable PDA phones on the market.

The E62's roomy keyboard is its biggest draw: It's one of the most spacious arrangements I've ever seen on a candy-bar handset, with wide, flat keys that are beautifully sized and spaced. Setting up e-mail is a breeze, the E62 handles attachments with aplomb, and its included office suite lets you view and edit documents easily.

As a phone, the E62 is on the quiet side, so you may have trouble hearing your callers. Dialing is easy, however, and the unit is comfortably light to hold. Talk-time battery life is excellent, reaching the 10-hour maximum in *PC World*'s lab testing. An MP3 player and a headset are also bundled.

My few complaints center on features that the E62 lacks: It has no camera and no 3G service. The Symbian OS is surprisingly sluggish, too; I found myself hitting commands several times, thinking that the button presses hadn't registered, when in reality the E62 was just processing them slowly.

Otherwise, it's a stellar little device. Factor in its reasonable $200 price (Note: all prices in this story are with a two-year contract, before any rebates), and the E62 comes out number one on our chart.

Motorola Q

IT'S ALMOST INCONCEIVABLE that a handset as svelte as the Motorola Q could be a fully functioning PDA phone, and an awfully good one at that.

This $200 phone weighs a mere 4.2 ounces and is just 1.45 inches thick, and it slips into practically any pocket. It's easy on the eyes, too, with a bright 2.5-inch display and a 1.3-megapixel camera. Its keyboard—which ranks among the best QWERTY thumb-keyboards I've ever used—feels spacious.

The unit's familiar thumbwheel makes navigating through long e-mail messages and Web pages a breeze. Unfortunately, the Q lacks key office applications that other phones provide, so you'll have to upgrade if you intend to edit documents while you're on the road. Without Wi-Fi, the Q relies on Verizon's EvDO network to send bits, but to me this 3G network felt terribly slow in actual use.

As a phone, the Q is easy to hold and simple to dial, but its speaker is fairly quiet. Talk-time battery life was mediocre in our formal tests, at just 5 hours, 38 minutes. Nevertheless, for users who want access to e-mail without incurring the bulk of a business-focused device, the Q is worth a look.

MOTOROLA Q

MEASURING LESS THAN half an inch thick, the Motorola Q is remarkably slim for a PDA phone.

Nokia E70

AT FIRST GLANCE the Nokia E70 doesn't look like a PDA phone at all: It's an unassuming candy-bar-style handset, with a smallish screen and a tiny numeric keypad. But flip the keypad up, and the E70 reveals its hidden charms—namely, a unique QWERTY keyboard, half of which falls on the right of the screen and the other half on the left.

Overall, the E70's audio quality is about average, and dialing with the miniature buttons on the keypad can be tricky. Talk-time battery life in our tests was quite impressive, at 9 hours, 52 minutes.

But the Symbian-based E70 is more than a cell phone. Its spacious keyboard invites delving into the device's substantial data features. The handset offers standard e-mail support, a full collection of Symbian's office-document viewers and editors, and Web browsing (via GPRS/EDGE or Wi-Fi).

The phone has a full complement of entertainment features, too. The included MP3 player works perfectly well, but the 2-megapixel camera

PHOTOGRAPHS: ROBERT CARDIN

is the real standout, producing excellent images.

Unfortunately, the Symbian OS isn't up for all the things this phone wants to do. Screen refreshes took ages, and switching applications was slow. Even worse: The unit has no HSDPA 3G support.

The E70 is compatible with Cingular and T-Mobile networks, but neither carrier offers it yet. An unlocked handset will cost you $450.

T-Mobile Dash

FOCUSED MORE ON fun than on work, the sleek T-Mobile Dash is a device designed to appeal to the Sidekick set. Though it resembles the ▶

T-MOBILE SIDEKICK 3

TO PLACE A call, you flip up the screen.

FEATURES COMPARISON

TEST Center MULTITALENTED PDA PHONES PACK PLENTY OF POWER

SUPERIOR BATTERY LIFE and a strong software bundle push the inexpensive and capable Nokia E62 to the top of our chart.

	SMART PHONE	PCW Rating	Performance	Features and specifications	Bottom line
1	Nokia E62 Best BUY $200 find.pcworld.com/55628	84 Very Good	• Battery life (hours:minutes): 10:00[1] • Battery life score: Superior • Overall design: Very Good	• Carrier: Cingular • Design style: Candy bar • Weight: 5.1 ounces • Camera resolution: N/A	This affordable Symbian-based PDA phone is perfect for people who want serious productivity software on their handheld.
2	Motorola Q $200 find.pcworld.com/54148	83 Very Good	• Battery life (hours:minutes): 5:38 • Battery life score: Fair • Overall design: Very Good	• Carrier: Verizon • Design style: Candy bar • Weight: 4.1 ounces • Camera resolution: 1.3 megapixels	This slim, stylish Windows Mobile smart phone is inexpensive, but it needs extra-cost software to edit Office documents.
3	Nokia E70 $450 find.pcworld.com/55751	81 Very Good	• Battery life (hours:minutes): 9:52 • Battery life score: Superior • Overall design: Good	• Carrier: Cingular • Design style: Clamshell • Weight: 4.5 ounces • Camera resolution: 2.0 megapixels	The Nokia E70 comes with an excellent camera and has a unique keyboard for easy typing, but it comes at a steep price.
4	T-Mobile Dash $250 find.pcworld.com/55629	80 Very Good	• Battery life (hours:minutes): 10:00[1] • Battery life score: Superior • Overall design: Good	• Carrier: T-Mobile • Design style: Candy bar • Weight: 4.2 ounces • Camera resolution: 1.3 megapixels	This supersleek Windows Mobile hybrid is optimized for messaging, e-mail, and multimedia applications.
5	T-Mobile Sidekick 3 $350 find.pcworld.com/54136	80 Very Good	• Battery life (hours:minutes): 9:00 • Battery life score: Superior • Overall design: Very Good	• Carrier: T-Mobile • Design style: Swivel • Weight: 6.7 ounces • Camera resolution: 1.3 megapixels	A great keyboard and stellar messaging give the Sidekick 3 appeal if you value data features more than voice calling.
6	Palm Treo 700wx $500 find.pcworld.com/55753	76 Good	• Battery life (hours:minutes): 5:28 • Battery life score: Fair • Overall design: Very Good	• Carrier: Sprint • Design style: Candy bar • Weight: 6.2 ounces • Camera resolution: 1.3 megapixels	The 700wx looks identical to the already-impressive Treo 700w, but it adds some worthy upgrades under the hood.
7	Palm Treo 700p $500 find.pcworld.com/53784	75 Good	• Battery life (hours:minutes): 4:59 • Battery life score: Fair • Overall design: Very Good	• Carrier: Sprint • Design style: Candy bar • Weight: 6.4 ounces • Camera resolution: 1.3 megapixels	Blazing performance and EvDO support makes this Treo a winner, but its brief battery life puts a limit on its road value.
8	HP iPaq hw6920 $360 find.pcworld.com/55763	73 Good	• Battery life (hours:minutes): 10:00[1] • Battery life score: Superior • Overall design: Good	• Carrier: Cingular • Design style: Candy bar • Weight: 6.3 ounces • Camera resolution: 1.3 megapixels	The hw6920 includes support for a wide variety of wireless technologies, but it unforgivably lacks a 3G data connection.
9	RIM BlackBerry 8703e $350 find.pcworld.com/55750	70 Good	• Battery Life (hours:minutes): 5:43 • Battery Life Score: Fair • Overall design: Good	• Carrier: Verizon • Design style: Candy bar • Weight: 4.7 ounces • Camera resolution: N/A	This all-business device has impressive e-mail features and works well as a phone, but it lacks a camera and a media player.
10	Samsung IP-830w $600 find.pcworld.com/55752	64 Fair	• Battery life (hours:minutes): 4:38 • Battery life score: Poor • Overall design: Good	• Carrier: Sprint • Design style: Slider • Weight: 7.4 ounces • Camera resolution: N/A	This dual-network phone sports an unappealing design and compounds that weakness with an unfriendly price tag.

CHART NOTES: Prices and ratings are as of 12/6/2006. All prices are based on a two-year service agreement, but don't include any rebates. N/A = not applicable. **FOOTNOTE:** [1]We cap battery life testing at 10 hours; this phone reached our test maximum with battery life remaining.

T-MOBILE DASH

THE DASH FEATURES a handsome design and excellent entertainment features, but its keyboard is tiny and cramped.

Motorola Q, this candy-bar-style phone is rubberized, rounded, and in general made friendlier for riding along in a pocket when you hit the road.

Unfortunately, the Dash lacks some key software components. The handset includes Wi-Fi, and its e-mail works well, but it has little in the way of office applications, bundling only the ClearVue suite for viewing—but not editing—documents. Typing on the cramped keyboard is tricky, too, as the tiny buttons feel mashed together.

As an entertainment-oriented gadget, the Dash is a hit, with a standout media player and a microSD expansion slot so you can add music to the device. But as a phone, despite lasting 10 hours in our battery tests, it has faults. Calls are loud and clear, but dialing them is difficult: Unlike every other smart phone, the Dash lacks an on-screen dialpad for dialing digits by their letter alternatives. Whoops!

T-Mobile Sidekick 3

HOLLYWOOD'S "IT" PHONE is now in its third revision. The Sidekick 3 packs an impressive set of features, headlined by a suite of easy-to-use e-mail, text messaging, and Web browsing applications.

As a phone, the Sidekick 3 is a bit bulky and difficult to hold for long, and you have to flip it open to dial a call. But its speaker is clear and loud. The Sidekick 3 turned in an excellent talk-time battery life of 9 hours in our lab tests. Navigating with the unit's light-up trackball is a pleasure—you may never want to use a thumbwheel again.

Features new to the Sidekick 3 include a music player (which handles only MP3 files) and a faster CPU. The camera has been upgraded to a resolution of 1.3 megapixels, and you can expand storage beyond the included 64MB via a miniSD card.

Ultimately, the Sidekick 3's Achilles' heel is attributable to T-Mobile: In lieu of a genuine 3G network, the company continues to offer its roughly 120-kbps EDGE network as its fastest service. Compared with phones that use a 3G network, the Sidekick 3 feels dated (and decidedly slower). And lacking Wi-Fi, the $350 phone gives you no way to bypass the cell network to take advantage of the device's otherwise sweet Internet capabilities. It's too bad, because the performance shortcomings really hamstring the Sidekick 3's usefulness.

PALM TREO 700WX

THE 700WX IS an upgraded version of the Treo 700w, offering faster performance.

Palm Treo 700wx

IN LATE 2006 Palm's Treo 700w received a quiet upgrade to the 700wx, which has the same design and runs the same OS but contains enhancements under the hood. Most notable is the RAM upgrade: With 48MB after a hard reset, the 700wx (available from Sprint) gives the user double the amount of program memory that the 700w does, which goes a long way toward making the new Treo quicker to refresh screens and generally more responsive.

My few criticisms of this device, like my gripes about other Windows Mobile–based Treos, revolve around the unit's unintuitive interface and the excessive number of taps and button presses required to launch any program that isn't reachable from the Today home screen. The 700wx includes the usual complement of Mobile Office applications. You can handle e-mail perfectly serviceably through Mobile Outlook; but as with the 700w and other Treos, typing on the 700wx's keypad becomes an unpleasant chore because the keys are slightly too big, too stiff, and too close together.

The 700wx resembles other Treos in its phone capabilities. Its voice quality is average, but it performs nicely as a speakerphone or with the included headset. With a talk time of 5 hours, 28 minutes in our lab test, the 700wx's battery life is subpar, but similar to that of other Treos we've tested.

At $500, the 700wx carries the same price as the 700w. Of the two, I definitely prefer the 700wx.

Palm Treo 700p

IF YOU'RE A fan of the Palm OS, you don't have many options in PDA phones—basically, your choice is between the Treo 700p and the Treo 680. (The Treo 680 wasn't ready in time for us to test it for this story, but you can read our full review of the device online at find.pcworld.com/56038.)

Years of refinement have molded the 700p into an intuitive and useful PDA phone. Setting up and accessing e-mail is painlessly simple, whether you are tapping at the screen with the stylus or using the navigation controls to get around. Only the lack of a thumbwheel makes the Treo at all frustrating to use, though people with large fingers may find the keyboard somewhat cramped.

Like all Treos, the 700p feels a bit unwieldy during extended conversations, but its audio quality is fine and the speakerphone is exceptional. Talk-time battery life is on the weak side, however, at just 4 hours, 59 minutes in our lab tests.

The great software bundle includes a trial version of Documents to Go for file viewing and editing, the Pocket Tunes music player, and more. Overall, the 700p is a great little—well, not *that* little—PDA phone, especially if you're a fan of the Palm OS. ▶

PHOTOGRAPHS: ROBERT CARDIN

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PALM TREO 700P

IT LOOKS LIKE the Treo 700wx, but the 700p runs the user-friendly Palm OS, not Windows Mobile.

HP iPaq hw6920

IS THERE SUCH a thing as wireless overkill? Perhaps not, but the HP iPaq hw6920 seems to be putting that question to the test. It features compatibility not only with the GSM/GPRS/EDGE wireless standards but also with Wi-Fi, Bluetooth, and GPS—a cool combination that could free you from ever again having to carry a multitude of gadgets all at once. Unfortunately, the poorly designed hw6920 still leaves much to be desired.

My biggest complaint: The handset provides no 3G support, restricting you to older and much slower GPRS or EDGE technology for your data connections—a situation that's almost inexcusable for a phone introduced in October 2006. (Wi-Fi is great as a backup, sure, but it's hardly ideal.)

Calls sounded somewhat less than clear, and the unit felt too wide to rest comfortably in my hand during voice calls. On the bright side, the hw6920 turned in outstanding talk-time battery life: In our lab tests we reached the cut-off point of 10 full hours without draining the battery completely.

The 3-inch screen is generously large but leaves plenty of room for a spacious keypad that's fairly easy to type on. The hw6920 runs Windows Mobile 5.1 and includes Mobile Office for viewing and editing office documents, GoodLink for syncing to enterprise networks, and Pocket Streets portable map software. At $360 with a two-year contract from Cingular, the hw6920 is not a terrible deal, but other phones provide nearly the same features (sans GPS) with far fewer operational problems.

HP IPAQ HW6920

HP'S PDA PHONE features a big 3-inch screen and a spacious keyboard for easy typing.

RIM BlackBerry 8703e

RIM'S BUSINESS-ORIENTED PDA phones have had the market sewn up since the release of the original Inter@ctive pager 950 in 1998. And today's BlackBerry 8703e is a finely honed business machine that few professionals can do without. (For a more entertaining BlackBerry, check out the Pearl.)

Put simply, the 8703e has all the features that a corporate user needs, with none of the frills that might annoy an IT administrator. Taking center stage is the impressive, intuitive e-mail system, which works with your personal e-mail, your business account (via a BlackBerry Enterprise Server), or a custom BlackBerry e-mail address.

You can view attachments in full, though you can't edit them. Typing on the (admittedly slightly cramped) QWERTY keyboard is easy. Available from Verizon Wireless for $350 with a two-year contract, the 8703e supports EvDO networks, ensuring fast e-mail access and Web browsing.

The 8703e is slightly bulky, but it's proportioned reasonably enough to make calling satisfactory. Voices came through loud and clear; a headset is included to deliver extra volume. With 5 hours, 43 minutes of talk time in our lab tests, the 8703e's battery life is passable, but hardly exceptional.

Though I missed having a camera and a media player (there's no expansion slot on this BlackBerry either), not every user wants or needs such frills. If your requirements—or your employees' needs—match its offerings, the 8703e is a solid selection.

Samsung IP-830w

THE "I" IN the Samsung IP-830w's name stands for *international*: The IP-830w is one of the few dual-network CDMA/GSM phones on the market from a major carrier; and as far as I can tell, it's the only PDA phone that offers access to both types of networks. That means you'll be able to make calls from more places without switching handsets. Alas, while the IP-830w may be a stellar choice for travelers who want to carry one device in the United States and abroad, it has major shortcomings.

The phone's most noteworthy flaw is its difficult design. The bulky unit is a vertical slider model; when the slider is closed, you see only the 2.8-inch screen and some basic navigation controls. Opening the slider reveals the full QWERTY keyboard, but leaves a small ridge on each side of the keyboard. This creates an awkward border that makes certain key presses unnecessarily difficult.

As a phone, the IP-830w is again far from perfect. The built-in speaker sounds muffled, and the handset's hefty weight of 6.8 ounces (7.4 ounces with the extended battery) makes long calls tiring. You will want the extended battery, though: In our lab tests the phone eked out only 4 hours, 38 minutes of talk time even with that battery in service.

The Windows Mobile 5.1–based handset packs the Mobile Office suite for viewing and editing files. Though the device lacks a camera, it does have a standard photo viewer and video player. The phone includes high-speed EvDO support, too, which makes Web browsing fairly painless.

Perhaps the IP-830w's biggest drawback is its steep price: $600 with a two-year contract from Sprint. That's significantly more cash for significantly less phone than the nearest competitor. ■

Christopher Null is a veteran technology journalist. He covers high-tech daily on his blog at tech.yahoo.com.

PHOTOGRAPHS: ROBERT CARDIN

CELL PHONES

Selecting Your service

Choosing the right cell phone carrier and plan is just as important as picking the phone itself. Here's what you need to know before you go shopping.

1 NOT EVERY CARRIER HAS EVERY PHONE. A certain cell phone may catch your eye, but the device is useless if you can't get service where you need it most. Check out the carrier. The four biggest carriers (Cingular Wireless, Sprint Nextel, T-Mobile, and Verizon Wireless) have coverage maps on their Web sites. Independent sites such as Dead Cell Zones (find.pcworld.com/55986) track user complaints about locations with poor cellular coverage.

2 TAKE INTO ACCOUNT THE RECEPTION YOUR NEW PHONE WILL GET. Most carriers offer a trial period; use this to assess the reception you get at home, on your commute, in your office, and from other locations where you'll be talking on the phone. Nail down the details of the trial period and the company's return policies (which can be quite strict) before you sign a contract.

3 CONSIDER DATA USAGE. Surfing the Internet and managing e-mail involve transmitting data, which isn't included in your voice plan. When purchasing a data plan, you should keep a few things in mind:

- You can pay for messaging and data use à la carte—and if you don't expect to move much data, you could save money that way. But you'll likely be charged a higher rate.
- Some carriers bundle voice and data plans together, while others permit you to select a voice plan and a data plan separately. It's wise to sign up for a plan that supplies slightly more voice and data minutes than you think you'll need.
- Most carriers describe their data plans as "unlimited." But before you start surfing the Web to your heart's content, find out exactly what the carrier's definition of *unlimited* is. Carriers may limit or prohibit data-heavy activities such as uploading or downloading audio or video programming. ■

HELPFUL HINTS

CELL PHONE COMPLAINTS

ACCORDING TO THE Better Business Bureau, cell phone companies are now the highest-ranked industry for consumer grievances. Here are some common complaints—and what you can do to avoid them.

» SERVICES YOU DON'T WANT: Cell phone carriers offer everything from mobile TV and radio packages to roadside assistance plans, and some give free trials to new subscribers. Always ask what services—including free trials—are supplied when you sign up, and find out whether you are responsible for canceling services yourself.

» UPGRADE FEES: If you plan to keep the same carrier but get a new phone, determine in advance what fees—if any—apply. Some carriers charge users for upgrading the phone, even at the end of an existing contract. Ask exactly how much you'll be charged and why.

» BILLING WOES: Not sure why the amount of your cell phone bill is higher than you had expected? The difference is probably due to taxes and fees, but you should always check to make sure. Before signing a contract, ask what fees and taxes you'll see on the bill, and what the bottom line will be.

» CUSTOMER SERVICE: Who do you call when something goes wrong? Find out what you'll need to do—and pay—to fix your phone.

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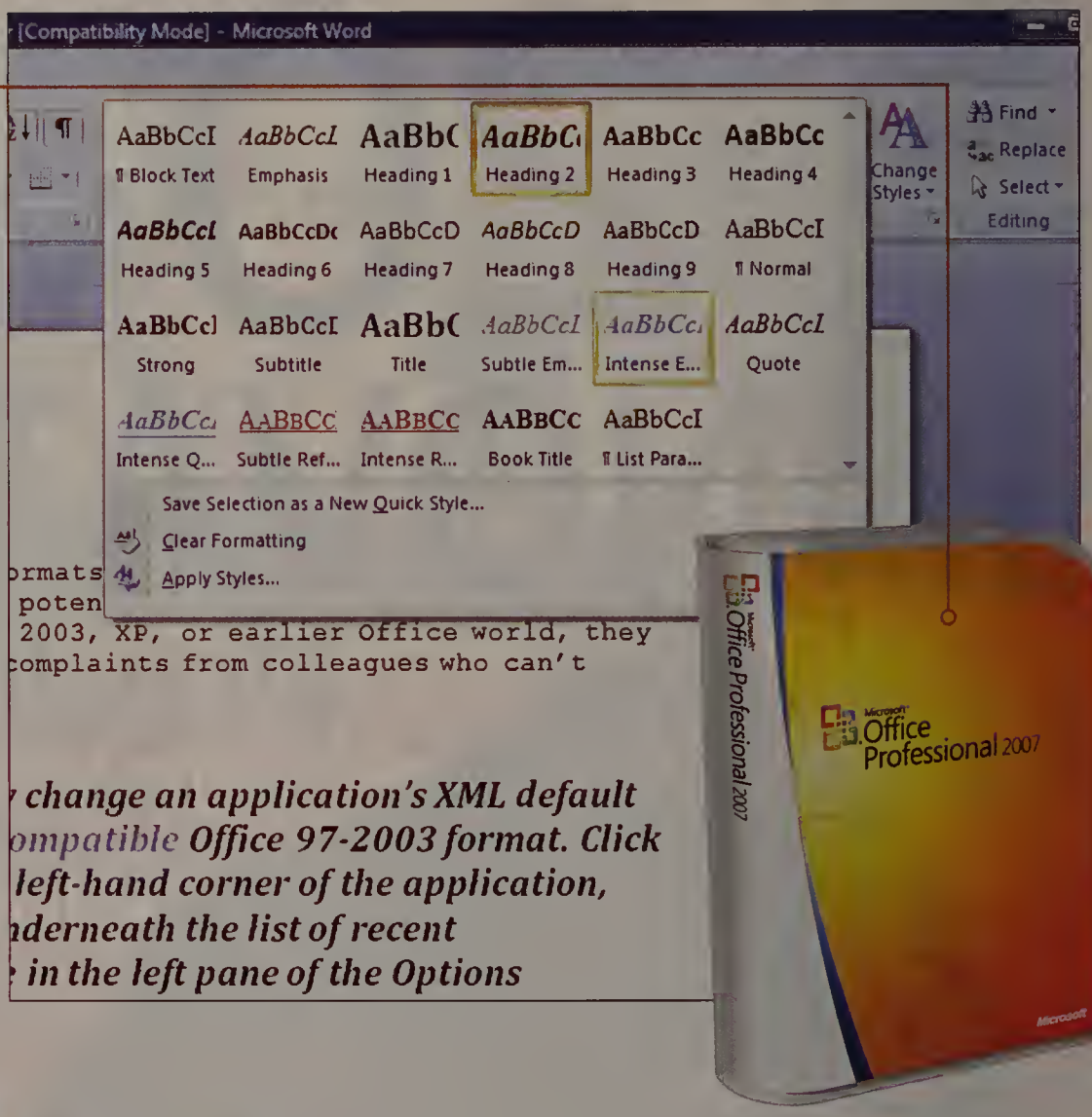
The 20 Most INNOVATIVE Products of the Year

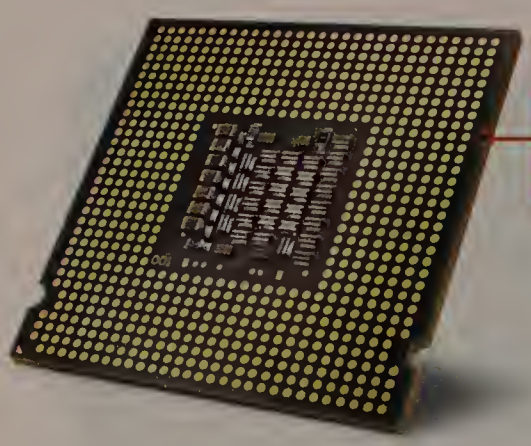
BY THE PC WORLD EDITORS
PHOTOGRAPHS BY MARC SIMON

A PC that's half desktop, half notebook. An operating system that runs entirely on the Web. **A radically made-over office suite.** Our award winners are the best kinds of breakthroughs—**ones you can get right now.** ▶



1 MICROSOFT OFFICE 2007

INNOVATION? MICROSOFT? Yes, we were surprised, too, but the Redmond giant's latest upgrade of the world's most popular productivity suite introduces several new features that revolutionize how people work with documents (see our full review in *Reviews and Rankings*, page 50). The most striking change is a "ribbon" at the top of the interface that replaces the traditional cascading menus and taskbars, and can expose functions you never knew were there. Through the suite's handy new Live Preview feature, you can see how formatting changes, for example, will affect your document prior to your making them. You get greater XML-format support, too. Prices range from $149 for the Home & Student edition to $679 for the Ultimate edition.

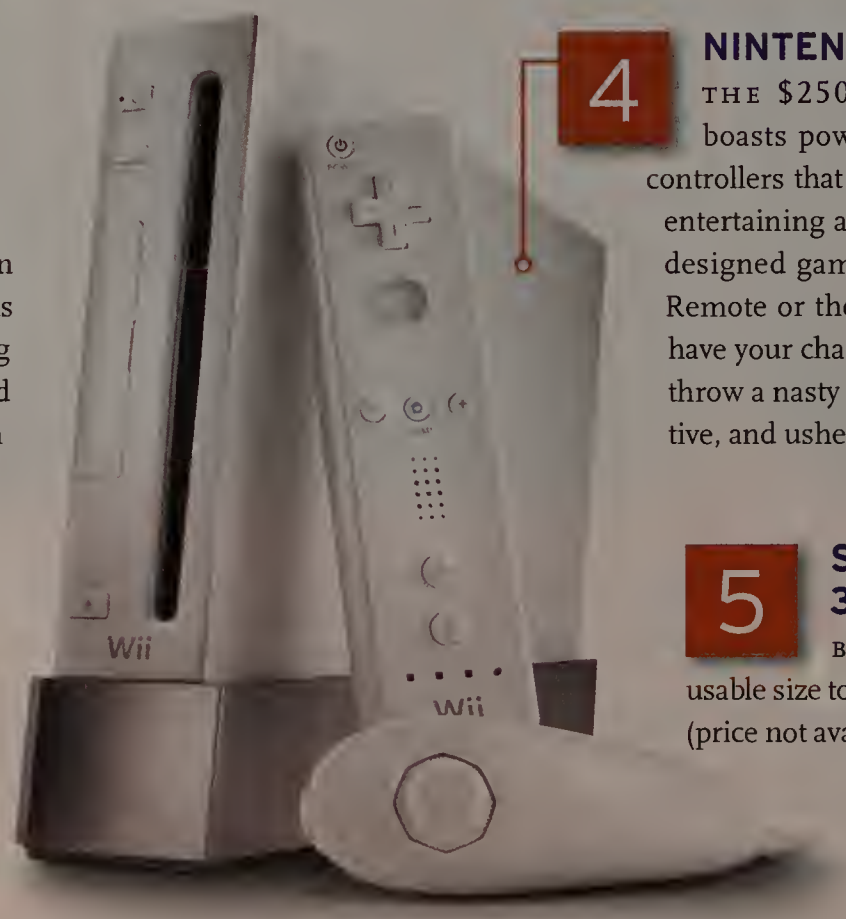


2 INTEL CORE 2 DUO

AS BY FAR the fastest desktop chips we've ever tested, the Core 2 Duo series might have the greatest impact of any product on this list. Most of Core 2 Duo's technological advances are obscured under titles like Advanced Smart Caching, Smart Memory Access, and Wide Dynamic Execution. Intel's truly innovative accomplishment was managing to bundle all of those technologies together, while significantly reducing power consumption.

3 PARALLELS DESKTOP FOR MAC

THE IDEA OF running Windows on a Mac made plenty of headlines this year. While this Hades-freezing development is undeniably cool and useful, it's hard to pin down which implementation is most innovative. We chose the slick virtualization software Parallels ($80), because it's arguably the most useful way to run key Windows apps on your Mac. But we also want to give a nod to Blanka and Narf, the two coders who wrote the WinXPonMac hack that seemed to prod Apple to rush out Boot Camp.



4 NINTENDO WII

THE $250 WII video game console boasts powerful new motion-sensing controllers that make game play both more entertaining and more active. In specially designed games, you can swing the Wii Remote or the joystick-like Nunchuck to have your character smash a tennis ball or throw a nasty left hook. It's fun and addictive, and ushers in a new era for gaming.

5 SAMSUNG 32GB SSD

BRINGING A FLASH drive of usable size to laptops, this 32GB hard disk (price not available at press time) brings a new age in fast laptop storage, and sets the stage for upcoming hybrid drives.

6 SONY READER

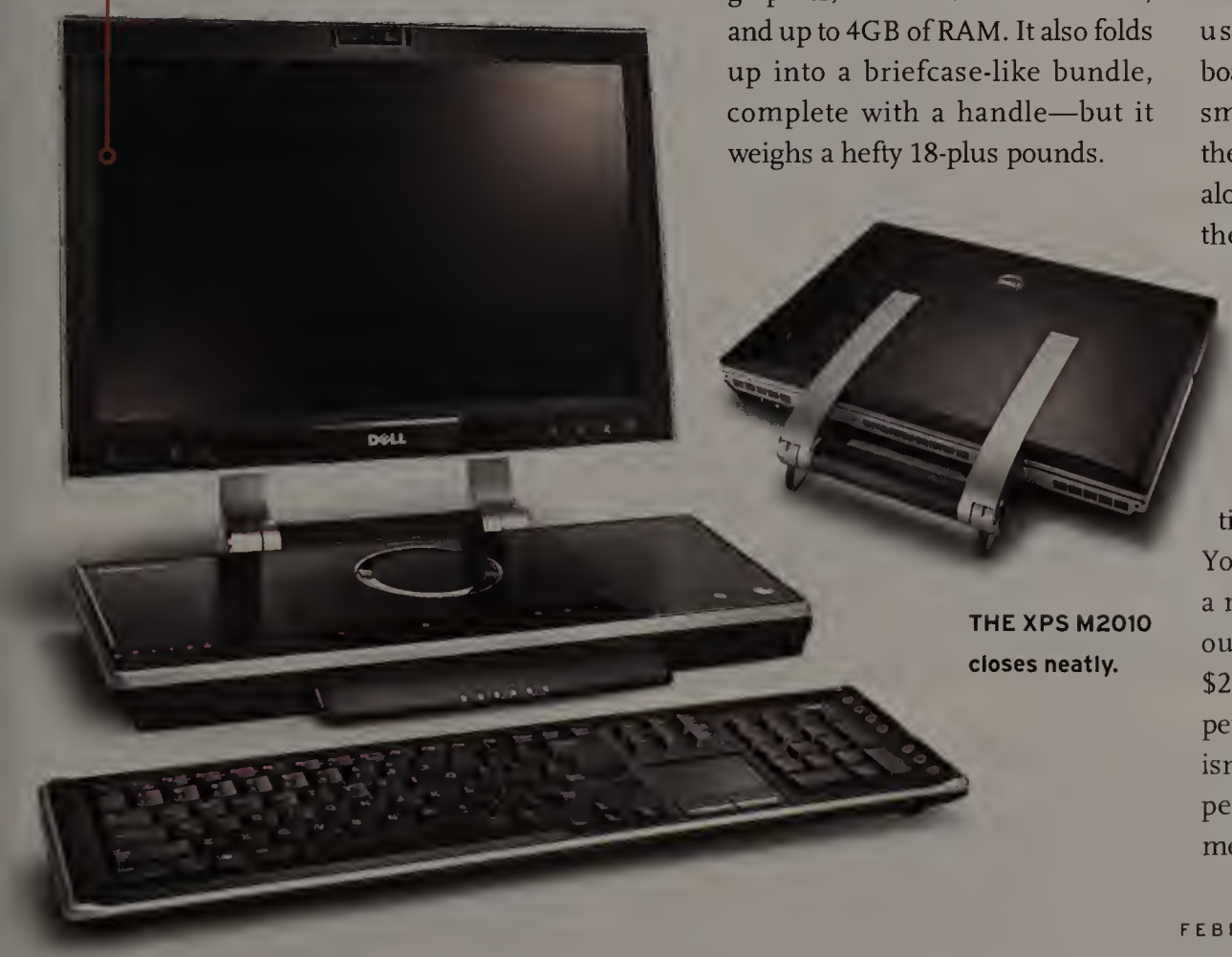
E-BOOKS HAVE YET to truly make it in the mass market, but Sony's $350 Reader may buck the trend. The device boasts a glare-free screen and innovative E Ink technology, which gives you the same resolution as newsprint and looks better than typical LCDs do in bright light. The Reader, slightly larger than a standard paperback, is easy to use and weighs only 9 ounces.

7 YOUOS

DO YOU EVER wonder how far the whole Ajax-based applications-in-a-browser craze can go? How about an entire operating system that runs in your browser? That's what YouOS, WebShaka's intriguing free site currently in alpha testing, is all about. Applications, data, and settings all live on the server. Set up an account, and you can access your YouOS desktop from anywhere, which gives a whole new meaning to remote access.

8 DELL XPS M2010

SPORTING A CUTTING-EDGE design, the Dell XPS M2010 (starting price $2999) makes a bold and immediate statement. Not quite a desktop and definitely less portable than a standard notebook, this hybrid system neatly balances elements of both. You get a 20.1-inch screen, a slot-loading DVD drive, and a detachable, full-size Bluetooth keyboard, plus an integrated Webcam, eight built-in speakers, and a subwoofer. Powering this entertainment system are ATI graphics, an Intel Core 2 Duo CPU, and up to 4GB of RAM. It also folds up into a briefcase-like bundle, complete with a handle—but it weighs a hefty 18-plus pounds.



THE XPS M2010 closes neatly.

9 SEAGATE BARRACUDA 7200.10 750GB

WITH THE GROWING popularity of video and music files in the past few years, storage capacity once again became an issue for PCs as hard drives' conventional longitudinal recording technology reached its limit. Enter perpendicular magnetic recording technology, which allows vendors to pack more data onto one platter than in the traditional approach. Laptops were the first to benefit from drives with the new technology, followed shortly by our pick, the $400 750GB Seagate Barracuda 7200.10 desktop model. Not only does this drive boast the highest capacity we've seen in a single desktop disk, but it outperforms standard drives—especially in write tests and on tasks that involve sustained throughput with sizable files.

10 T-MOBILE DASH

THE SLIM MOTOROLA Q brought a usable QWERTY keyboard to Windows Mobile smart phones—and then the T-Mobile Dash came along and got the rest of the package right. Combining a stylish, super-thin design with sculpted keys that correct the deficiencies we found on the Q, and offering both cellular service and integrated wireless capabilities, the Dash makes a great impression. You also get a 1.3-megapixel camera and a miniSD slot for expansion in this 4.2-ounce handset, and it's an affordable $250 with a two-year contract. Our minor pet peeves: The device's software bundle isn't as robust as that of some of its competitors, and its built-in user-accessible memory is a paltry 23MB.

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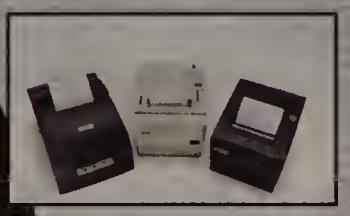

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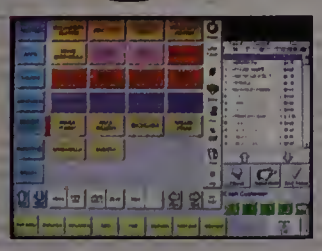

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11 PIONEER INNO

SATELLITE RADIO REACHES a new level of portability with Pioneer's $299 XM Radio receiver. Earlier devices simply recorded snippets of radio shows. This is a real live-radio receiver that can record and store songs, too, and it lets you bookmark tunes you want to buy later. (Samsung's Helix, which we didn't test, is a nearly identical model.)

12 FARECAST

LOTS OF SITES help you find the best airfares if you're buying tickets right now. But what looks like a great deal one day can seem overpriced the next. Farecast tracks fares over time, telling you whether prices are likely to go up or down over the next week.

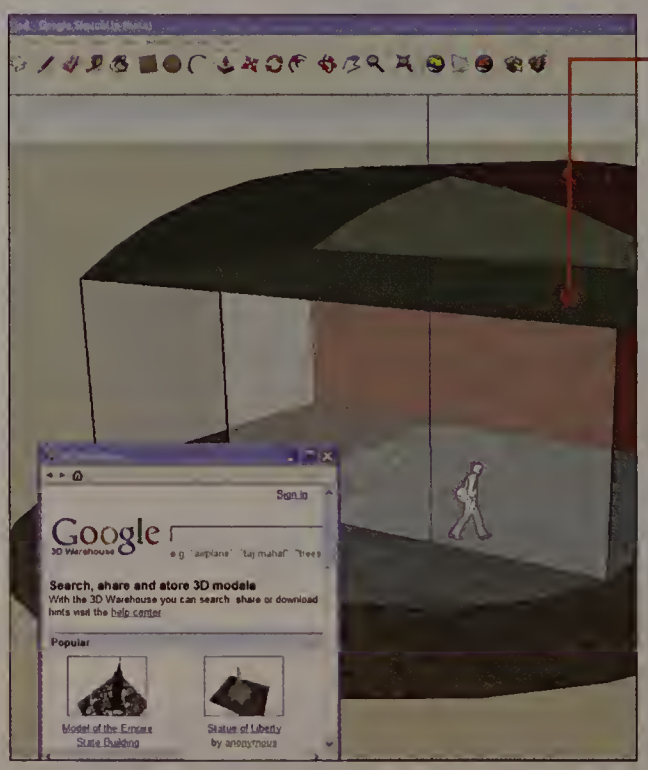
13 SONY BWU-100A BLU-RAY DISC REWRITABLE DRIVE

SONY'S $750 BWU-100A wasn't the first internal Blu-ray Disc burner we saw (that honor went to Pioneer's $1000 BDR-100A), but it offers the most complete package at the best price, and unlike some others it can write to both 25GB single-layer and 50GB dual-layer discs.

14 OLYMPUS EVOLT E-330

THE $950 OLYMPUS EVolt E-330 digital SLR introduces a unique feature to this class of camera: an LCD that can provide a live preview of your shot. In particular macro shooters and users with glasses should appreciate this, as it will save them some struggle with the viewfinder. To use the LCD this way, simply press the Live View button. You can see the scene at 92 percent (and have it autofocus), or at 100 percent (focusing manually) with accurate depth of field and the ability to magnify details to ensure that your shot is sharp. Image quality was good in our tests, and the camera includes Olympus's top-notch cleaning mechanism to keep dust from marring your photographs.

THE EVOLT E-330'S flexible LCD shows live previews.



15 GOOGLE SKETCHUP

THIS DRAWING program makes creating 3D structures supereasy. You can have a model done in minutes, then save, print, or add it to Google Earth to share it with other users. You also have access to a plethora of ready-made structures via Google's 3D Warehouse, and the application's thorough online documentation can help you past any rough patches as you build. The program works with both Windows and the Mac OS—and best of all, it's free. ▶

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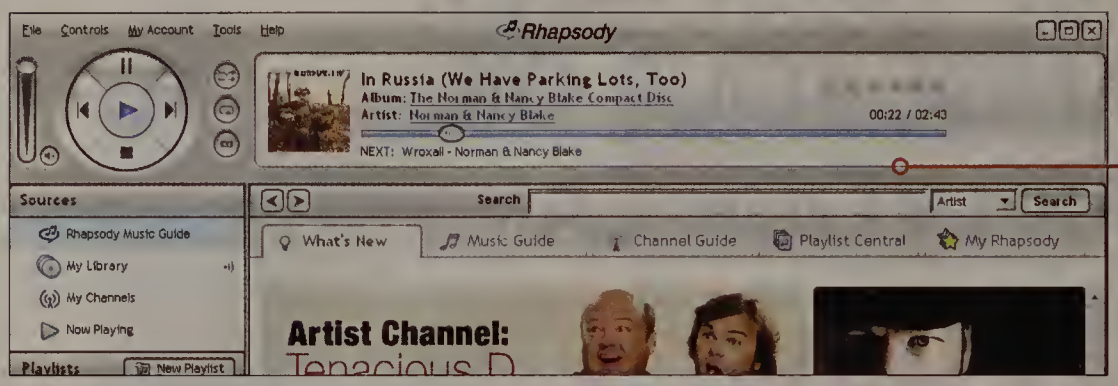

18 RHAPSODY 4.0

THE MOST EVOLVED of the music streaming services, Rhapsody has added two features that further liberate it from the PC. With the Sonos Digital Music System, you can connect directly to Rhapsody, no PC needed. And if you tell the $10-to-$15-per-month service which kinds of music you like, it'll load new songs in that genre when you connect a compatible portable player.

16 SONY PLAYSTATION 3

A MULTICORE CELL processor. Blu-ray. Wi-Fi. A custom-designed nVidia graphics chip. A motion-sensing, wireless controller. We've seen many of these technologies before, but Sony gets major points for managing to pack all of them into one machine. And while $599 sounds like a lot for a game console, the 60GB PS3 probably has more power than your average budget PC (a slightly less powerful version is available for $499). The PS3 is truly focused on high definition, and our first tests showed that it's arguably a better Blu-ray Disc player than Samsung's first $1000 effort.

17 RIM BLACKBERRY PEARL 8100

WE'VE SEEN BUSINESS-ORIENTED smart phones and multimedia phones, but the BlackBerry Pearl 8100 brings those two worlds together and backs everything up with RIM's network, which is still the best for always-on connectivity. The sleek Pearl ($350 from T-Mobile) adds a 1.3-megapixel camera, an audio player, and a video player to the usual BlackBerry features. Caveats: The unit lacks a full QWERTY keyboard, and its trackball navigation and compact keys can be awkward.

19 LOGITECH NULOOQ

THE $70 NULOOQ, a heavy hockey puck–size dome that sits stationary on your desk, gives you lots of new ways of moving around your PC. Though it's targeted at design pros, it can help anyone who needs more control than a mouse and a scroll wheel offer.

20 SHURE E500PTH SOUND ISOLATING EARPHONES

THESE IN-EAR, SOUND-ISOLATING headphones nestle themselves in your ear canal and block 20 dB of outside noise, leaving you with a remarkably quiet listening environment even on a crowded bus or plane. Though that's great for listening to music, it can be a pain if you have to talk to someone for a bit. In the $500 E500PTH, however, Shure found a unique way around the problem by embedding a small microphone in the cord. Flick a switch on the Push To Hear module, and the outside world is piped in through the headphones—you have no need to remove them from your ears. ■

ONLINE EXTRA

Forthcoming Innovations

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Acer Bluetooth® VoIP phone
For your web phone calls

Empowering Technology

- AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-60
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology[2]
- Genuine Windows® XP Professional
- 2GB DDR2 667 SDRAM
- 160GB[3] hard drive
- Modular slot-loaded Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 15.4" WSXGA+ (1680 x 1050) TFT display
- ATI® Mobility™ Radeon® X1600 graphics
- Integrated Acer OrbiCam camera
- 802.11b/g WLAN, Bluetooth®, Bluetooth® VoIP phone, gigabit LAN, V.92 modem
- Optical mouse
- One-year limited warranty[4]

AMD Turion 64 X2 MOBILE TECHNOLOGY

www.pleasing.it - ADV

Ferrari 5005WLMi

$2,399

(LX.FR506.119)

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

Ferrari
OFFICIAL LICENSED PRODUCT

Produced under license of Ferrari Spa. FERRARI, the PRANCING HORSE device, all associated logos and distinctive designs are trademarks of Ferrari Spa.

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Acer F-20”

- 20" wide-screen TFT LCD, Acer CrystalBrite Technology
- 1680 x 1050 native resolution
- 800:1 contrast ratio
- 176° horizontal viewing angle
- 176° vertical viewing angle
- Two 5.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m² brightness
- 8ms gray-to-gray response time
- External power adapter
- Gloss black/red color

$399

(ET.L380B.063)

Ferrari
OFFICIAL LICENSED PRODUCT

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Acer recommends Windows® XP Professional.

Ferrari 1000

EXCLUSIVE INNOVATION

Acer OrbiCam
Mobile video conference almost anywhere[1]

Carbon Fiber Casing
Thin, lightweight and resistant

ULTRAPORTABLE
12.1" CrystalBrite

Empowering Technology

- AMD Turion™ 64 X2 Dual-Core Mobile Technology TL-56
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology[2]
- Genuine Windows® XP Professional
- 1GB DDR2 667 SDRAM
- 160GB[3] hard drive
- External Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 12.1" WXGA (1280 x 800) TFT display, Acer CrystalBrite Technology
- ATI® Radeon® Xpress 1150 graphics
- Integrated Acer OrbiCam camera
- 802.11n WLAN, Bluetooth®, Bluetooth® VoIP phone, gigabit LAN, V.92 modem
- Optical mouse
- One-year limited warranty[4]

AMD Turion 64 X2 MOBILE TECHNOLOGY

Ferrari 1004WTMi

$1,999

(LX.FR606.041)

Prices shown are estimated street prices and do not include tax or shipping. Retailer or reseller prices may vary.

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Compare LCD Prices/Features & You'll Choose Acer®

Acer AL2616Wd

- 26" wide-screen TFT LCD
- 1920 x 1200 native resolution
- 800:1 contrast ratio
- 178° horizontal viewing angle
- 178° vertical viewing angle
- VGA, DVI-D signal connectors
- 500 cd/m² brightness
- 5ms gray-to-gray response time
- Internal power adapter
- Silver color

$759

(ET.G16WP.001)

Acer AL2416Wd

- 24" wide-screen TFT LCD
- 1920 x 1200 native resolution
- 1000:1 contrast ratio
- 178° horizontal viewing angle
- 178° vertical viewing angle
- VGA, DVI-D signal connectors
- 500 cd/m² brightness
- 6ms gray-to-gray response time
- Internal power adapter
- Silver color

$699

(ET.L6102.018)

Acer AL2216Wbd

- 22" wide-screen TFT LCD
- 1680 x 1050 native resolution
- 700:1 contrast ratio
- 170° horizontal viewing angle
- 160° vertical viewing angle
- VGA, DVI-D signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$329

(ET.2216B.0D0)

Acer AL1917 Cbmd

- 19" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$229

(ET.1917B.0DC)

Acer AL1916W Ab

- 19" wide-screen TFT LCD
- 1440 x 900 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- VGA signal connector
- 300 cd/m² brightness
- 5ms response time
- Internal power adapter
- Black color

$195

(ET.1916B.W08)

Acer AL1717 Bbmd

- 17" TFT LCD
- 1280 x 1024 native resolution
- 700:1 contrast ratio
- 150° horizontal viewing angle
- 135° vertical viewing angle
- Two 1.0W integrated speakers
- VGA, DVI-D signal connectors
- 300 cd/m² brightness
- 8ms response time
- Internal power adapter
- Black color

$169

(ET.1717B.MD8)

For the name of a reseller near you or further information, please call Acer or visit our Web site: **800-571-2237**

www.acer.com/us

Acer recommends Windows® XP Media Center Edition.

Home Entertainment

Acer delivers remarkable solutions for breathtaking mobile multimedia entertainment. Cutting-edge mobile technology combined with ultra-bright screens, powerful graphics and complete connectivity make these the ideal choice for no-compromise entertainment on the go.

Acer® Aspire™ 3050

- Mobile AMD Sempron™ Processor 3400+
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology[2]
- Genuine Windows® XP Media Center Edition 2005
- 512MB DDR2 SDRAM
- 40GB[3] hard drive
- Integrated CD-RW/DVD-ROM combo drive
- 5-in-1 card reader
- 14.1" WXGA (1280 x 800) TFT display
- Integrated ATI® Radeon® Xpress 1100 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty[4]

Graphics by ATI Radeon Xpress 1100

Acer Aspire 3050-1594

$579

Mobile AMD Sempron™ Processor 3400+
Genuine Windows® XP Media Center Edition 2005
(LX.AV10J.037)

Windows® Vista™ Capable

AMD Mobile Sempron™

Empowering Technology

Acer Empowering Technology

One touch of the Empowering Key and you can easily take control of your notebook's security, performance, settings and communications.

Acer Technology for Your Mobility

Acer QuickCharge

Found on select models, Acer QuickCharge technology enables the notebook's battery to be 80 percent fully charged in just one hour.

Acer GridVista

Easy-to-use software designed to automatically split the screen in up to four separate windows and make the most of available screen space.

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Home Entertainment

Acer® Aspire™ T180

Display sold separately.

- AMD Athlon™ 64 Processor or AMD Sempron™ Processor
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology[2]
  - Cool'n'Quiet™ Technology
- Genuine Windows® XP Media Center Edition 2005
- DVD-Dual drive (DVD+/-RW)
- 9-in-1 card reader
- NVIDIA® GeForce® 6100 and NVIDIA® nForce® 430 graphics
- Gigabit LAN, V.92 modem
- PS/2®-style keyboard and mouse
- One-year limited warranty[4]

Acer Aspire T180-EA381M

$499

AMD Athlon™ 64 Processor 3800+
Genuine Windows® XP Media Center Edition 2005
1GB DDR2 SDRAM and 250GB[3] SATA hard drive

Acer Aspire T180-ES340M

$399

AMD Sempron™ Processor 3400+
Genuine Windows® XP Media Center Edition 2005
512MB DDR2 SDRAM and 160GB[3] SATA hard drive

AMD 64 Athlon™

Windows® Vista™ Capable

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Retailer or reseller prices may vary.

Acer® Projectors with DLP® Technology

- 3700 ANSI lumens
- XGA (1024 x 768) native resolution
- UXGA (1600 x 1200) maximum resolution
- 2500:1 contrast ratio
- 7.7 lb. (3.5kg)

Acer PD726W
Wireless Projector
$1,669
(EY.J2901.012)

PICTURE BY DLP® TEXAS INSTRUMENTS

Acer XD1170D
Multipurpose Projector
$699

For the name of a reseller near you or further information, please call Acer or visit our Web site: **800-571-2237**

www.acer.com/us

Acer recommends Windows® XP Media Center Edition.

Ultra-Compact Efficiency

The AcerPower 1000 delivers desktop-level performance in a system that's just one-tenth the size of a typical tower desktop. Plus, operation is ultra-quiet and power consumption low.

AMD 64 Athlon

Acer® AcerPower™ 1000

- AMD Athlon™ 64 Processor 3800+
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology[2]
  - Cool'n'Quiet™ Technology
- Genuine Windows® XP Professional
- 512MB DDR2 SDRAM
- 80GB[3] SATA hard drive
- DVD-Dual drive (DVD+/-RW)
- NVIDIA® GeForce® 6150 graphics
- Gigabit LAN
- USB keyboard and mouse
- 2.4" W x 9.8" D x 7.9" H
- One-year limited warranty[4]

Acer AcerPower 1000-UA382P

$599

AMD Athlon™ 64 Processor 3800+
Genuine Windows® XP Professional
802.11b/g WLAN

Acer AcerPower 1000-UA381P

$579

AMD Athlon™ 64 Processor 3800+
Genuine Windows® XP Professional

- 2300 ANSI lumens
- SVGA (800 x 600) native resolution
- SXGA (1280 x 1024) maximum resolution
- 2200:1 contrast ratio
- 4.8 lb. (2.2kg)

(EY.J4001.007)

Acer PD311
Portable Projector
$739

- 2000 ANSI lumens
- SVGA (800 x 600) native resolution
- SXGA (1280 x 1024) maximum resolution
- 2000:1 contrast ratio
- 2.9 lb. (1.3kg)

(EY.J3401.006)

acer

Acer recommends Windows® XP Media Center Edition.

acer

Home Entertainment

Windows® Vista™ Capable

Acer® Aspire™ 5100

- AMD Turion™ 64 Mobile Technology MK-36
  - AMD PowerNow!™ Technology
  - HyperTransport™ Technology
  - Enhanced Virus Protection Technology[2]
- Genuine Windows® XP Media Center Edition 2005
- 512MB DDR2 533 SDRAM
- 80GB[3] hard drive
- Integrated Super-Multi drive (DVD+R, DVD-R, DVD-RAM)
- 5-in-1 card reader
- 15.4" WXGA (1280 x 800) TFT display, Acer CrystalBrite Technology
- Integrated ATI® Radeon® Xpress 1100 graphics
- 802.11b/g WLAN, 10/100 LAN, V.92 modem
- One-year limited warranty[4]

Wi Fi® CERTIFIED

Acer Aspire 5100-3959

$699

AMD Turion™ 64 Mobile Technology MK-36
Genuine Windows® XP Media Center Edition 2005
(LX.ABH0J.155)

AMD Turion™ 64 MOBILE TECHNOLOGY

GRAPHICS BY ATI RADEON XPRESS 1100

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Acer Notebook Service Upgrades Protect Your Valuable Investment

Quality is built into every notebook Acer makes, and each comes with a one-year standard limited warranty.[4] It includes hardware technical support via toll-free phone plus a concurrent International Traveler's Warranty for travel outside the U.S. and Canada. Extra protection is available with one of these upgrades:

It's a tough world out there, and accidents do happen—sticky spills, dangerous drops, nasty knocks—which is why you should consider the Total Protection Upgrade. It runs concurrently with the limited warranty[4] and limited warranty extension and covers the cost of a replacement unit if your covered notebook cannot be repaired.

2-Year Extension of Limited Warranty (146.AB820.EX2)

$99

Prepays freight from Acer repair depot.
Excludes extension of International Traveler's Warranty.

2-Year Extension of Limited Warranty + 3-Year Total Protection Upgrade (146.AD077.002)

$199

Prepays freight to and from Acer repair depot.
Excludes extension of International Traveler's Warranty.

[1] Depends on availability of PC-supported connections and location.
[2] Enhanced Virus Protection (EVP) is enabled by Microsoft® Windows® XP Service Pack 2. By default, EVP will protect the user's Windows operating system only. Users must enable the protection of their applications and associated files to be protected from memory buffer overrun attacks. AMD and Microsoft strongly recommend that users use third-party anti-virus software as part of their security strategy.
[3] When referring to storage capacity, GB stands for one billion bytes and MB stands for one million bytes. Some utilities may indicate varying storage capacities. Total user-accessible capacity may vary depending on operating environments.
[4] For a free copy of the standard limited warranty end-users should see a reseller where Acer products are sold or write to Acer America Corporation, Warranty Department, P.O. Box 6137, Temple, TX 76503.

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www.acer.com/us

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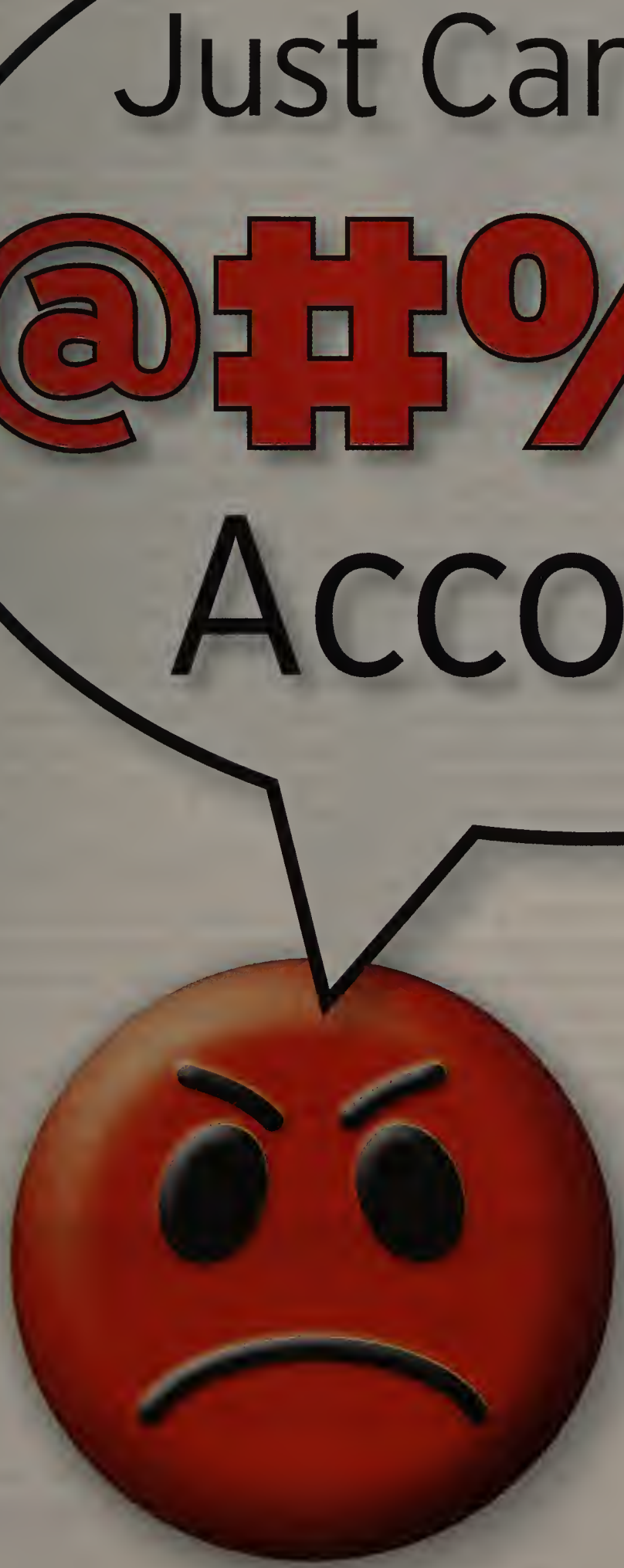
Just Cancel the @#%$* Account!



It's hard to find a Web service that doesn't offer a free trial. But just try canceling. We did, and the results weren't always pretty.

IT TOOK ME less than 5 minutes to sign up for a NetZero dial-up Internet account. But after canceling that account, I spent a week trying in vain to reverse a charge that the service levied after my cancellation request.

BY TOM SPRING

I had to call NetZero a total of five times, holding for several minutes and then enduring long and fruitless conversations with company agents every time I called. According to the NetZero representatives that I spoke to, I needed to talk to a supervisor to arrange a credit, but none was ever available when I called. In the end, I gave up and let NetZero keep the money.

To evaluate how difficult canceling an online service can be, I signed up for and then canceled 32 accounts, each at a different site. About a third of the services in my sample made the seemingly simple goal of canceling very hard to achieve (see the "Big Hassle" entries in "Want to Cancel That Service?" on page 121 for identities of the offending companies).

Not all of my experiences were negative. Services such as a monthly New York Times TimesSelect online subscription and a monthly Consumer Reports Online account took only minutes to cancel and without lingering strings. But some others made me feel as though I'd joined the Sopranos' family business: Once I signed up, there was no quitting!

HOW MUCH HASSLE?

I SUBSCRIBED TO the services beginning last July, and I canceled—or tried to cancel—them all between August and October. Afterward, I considered several factors in assessing how hard it was to cancel each service and to receive any promised trial-period refunds. For example, I downgraded companies that failed to provide a way to unsubscribe through their Web sites. I also dinged merchants when they continued to bill me after I had canceled, and if they made me feel like a Net gumshoe searching their Web site for clues on how to unsubscribe. And I penalized sites whose customer service personnel pressured me repeatedly to continue my subscriptions or even buy other services. Finally, I took into account how long the various companies kept me on hold, and whether they continued to send me e-mail after I had canceled.

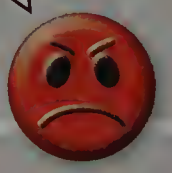
Of course, hassle is to a certain extent in the eyes of the beholder. A 10-minute call with one company might be fine if the representative is polite and helpful. The same amount of time with another company might be highly annoying.

Companies labeled "No Hassle" made severing ties relatively easy. For instance, some of them let me cancel by filling out an online form or sending an e-mail, and then they left me alone. Companies labeled as "Some Hassle" received unsatisfactory marks on one or more criteria. Companies that earned the "Big Hassle" rating failed on several measures; they made it so hard for me to cancel that I regretted having signed up with them in the first place. For more about the particulars of my experiences with each service I tried, see find.pcworld.com/56034.

HALL OF SHAME AWARD

NETZERO

A Really Big Hassle



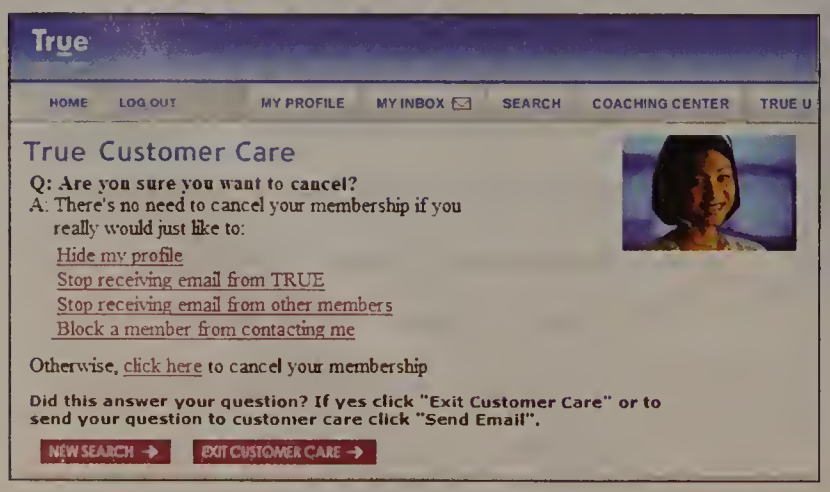
CANCELING TRUE.COM WAS bad—but botched billing, long and frustrating conversations with customer service reps, and supervisors who were never available when I called made NetZero my worst cancellation experience.

NOT-SO-FREE FREE TRIALS

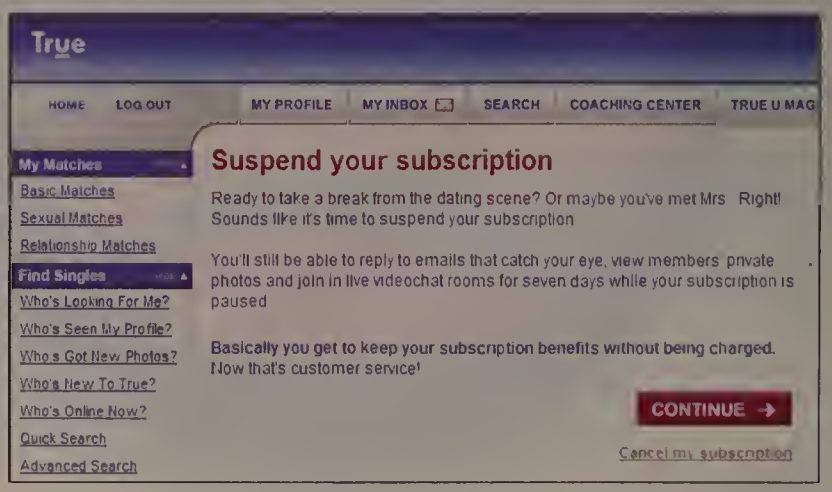
WEEKS AFTER A NetZero agent told me that he was canceling my account, a charge for $14.95 appeared on my credit card bill. So I called back, providing my name and my old NetZero account information. The customer service agent told me that I would need to supply a "transaction number" from my credit card account in order to obtain a refund.

Half an hour later, I called back with a transaction number. Another NetZero agent told me that the transaction number I had supplied was wrong, and said that his supervisor would call me back within half an hour. When no supervisor called, I called back. There was still no supervisor available. The next day, I received a voice-mail message requesting that I call again. I did, but there was still no supervisor on hand. I finally decided that it wasn't worth the effort, and I gave up on getting the refund.

NetZero said later in a written statement that the company "sincerely apologized" for the trouble I had encountered, but it did not indicate to me whether the



THE SECOND TRUE.COM screen that appears after you select an option to cancel still tries to dissuade you from closing your account.



CLICKING 'CONTINUE' HERE only suspends the account temporarily. To cancel, you have to click the small link and then call the company.

company planned to change its practices.

I had a hard time canceling my $5 monthly Gold Classmates.com account, too. I couldn't find any information on how to cancel until I entered the word *cancel* in the site's search engine. Classmates.com spokesperson John Uppendahl confirmed that there is no other way to find cancellation information. But that was only the first hoop I had to jump through to cancel my membership.

Classmates.com also forced me to click through several Web pages reminding me of the benefits I'd lose. Finally my clicking ended at a generic Member Support e-mail contact page containing a blank 'Your Question' field. Though the form said nothing about cancellations, I used it to request that the service cancel my subscription. The next day I received an e-mail message confirming that the service had accepted my request.

> "You can't annoy someone into liking your brand," says one analyst.

When I asked Uppendahl why canceling my account took so many steps, he replied that this was the way that Classmates.com handled cancellations. He declined to answer further questions.

EASY SIGN-UP, HARD CANCEL

"YOU CAN'T ANNOY someone into liking your brand," says Harley Manning, vice president of research at Forrester Research. But some companies certainly act as though they think he's wrong.

In January 2006, America Online agreed to pay $25 million to settle a class-action lawsuit brought against it in the St. Clair County, Illinois, circuit court. The suit alleged, among other things, that AOL had billed customers for services that they had tried to cancel. The company settled a similar suit brought by the state of Ohio in 2005. In both cases, AOL denied any wrongdoing.

Sixteen days after I signed up for an AOL 90-Day Risk-Free dial-up account in Massachusetts, I decided to cancel the account. When I called AOL to do so, a representative peppered me with questions as to why I was unsubscribing and reminded me that I could maintain a free AOL e-mail account. I declined the offer, and the rep finally told me, "You will not be charged any monthly membership fees." I had similar experiences canceling the other two accounts.

But even though I canceled my 90-day trial after only 16 days, I was hit with a charge of $25.90, the monthly AOL fee, on my credit card. I also signed up for similar AOL accounts in Colorado (using a friend's address) and New York (using a relative's address). In both of those cases, my credit card was charged the monthly fee.

Later, when I called back and questioned why I had been billed, another representative told me that I had to ask for a refund, or else I wouldn't receive one—odd, given that the first rep had said that I wouldn't be billed.

An AOL spokesperson confirmed to me that members must request a refund in order to get one, and said that its customer service reps had erred each time I cancelled over the phone. Instead of telling me that I wouldn't be charged "any fees," the spokesperson said, they should have indicated to me that I wouldn't be charged "any *additional* fees."

MSN Internet billed me twice after I had closed that account. Likewise, Netflix charged me after I had canceled there.

These were honest mistakes, according to the companies involved. "As soon as issues like yours are brought to the attention of customer service, they are remedied immediately," Netflix spokesperson Bronagh Hanley assured me. A spokesperson for MSN echoed Netflix's statements. But in both cases I had to call to get the charges removed. ▶

HASSLE FACTOR

Want to Cancel That Service? Check How Hard It'll Be First

WE FIELD-TESTED 31 COMPANIES to see how easy or difficult they make it to cancel their services. The companies within each category are listed alphabetically.

BIG HASSLE

AOL
BlueMountain.com
Classmates.com
ESPN
MSN Internet
Napster.com
NetZero
Real Rhapsody
Real SuperPass
True.com

SOME HASSLE

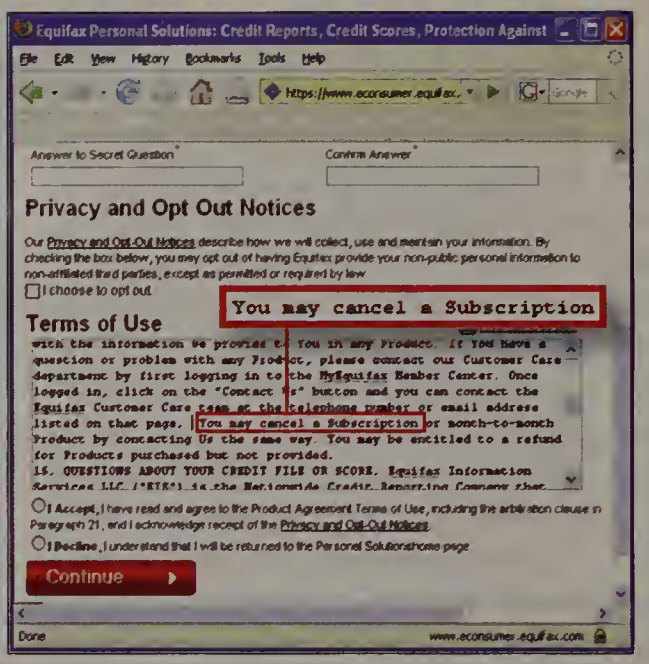
EarthLink
Equifax Credit Watch Gold
Flickr.com
GameSpy Arcade
MLB
Netflix
RapidFax

NO HASSLE

Ancestry.com
Audible.com
Consumer Reports Online
Ediets.com
GameFly.com
GotoMyPC
Match.com
Mvelopes.com
Reservation Rewards
Salon.com
Stamps.com
The New York Times TimesSelect
The Wall Street Journal
Vonage
Vongo

When I called to cancel RealNetworks' Real SuperPass I spoke with a company representative who kept cajoling me to change my mind. He then tried to sell me on the benefits of other RealNetworks services. All told, he asked me 13 times in several different ways to remain a customer.

Carol Rogalski, a spokesperson for RealNetworks, told me that my experience was a one-time occurrence. Then why, I asked Rogalski, had I encountered similar exit hassles earlier in the same month when I tried to unsubscribe from RealNetworks' Real Rhapsody service? According to Rogalski, RealNetworks is now conducting investigations into both incidents.



EQUIFAX BURIES HOW to cancel its Credit Watch Gold service in a 3903-word terms-of-service document.

DID YOU SAY 'CANCEL'?

THINKING THAT I had properly canceled my contract with the dating service True.com within two weeks of signing up, I expected to be charged for one month of service: $50. Two months later, however, my credit card statement showed $153 in True.com charges. It turns out that rather than canceling my account, I had merely suspended it temporarily—and in the process, I had also unwittingly signed up for an additional True.com service to help me improve my profile, at $1 per month.

Here's where I went wrong: When I went to True.com's Customer Care page to unsubscribe, I selected 'Cancel' and the programmed instructions prompted me to type a cancellation request into a text field. After doing as instructed, I clicked 'Continue'; the next screen then asked, 'Are you sure you want to cancel?' In response I clicked yet another link labeled 'Click here to cancel your membership'.

On the next screen, instead of asking me again if I wanted to cancel my membership, the routine asked me if I wanted to "suspend" my subscription. At the bottom of the window was a big 'Continue' button, and below that—in gray (not black) type in the smallest font on the page—was a link labeled 'Cancel my subscription'. I clicked the 'Continue' button, not realizing that by doing so I had merely suspended my account for seven days.

When I called True.com to ask why I had been charged, a customer service representative named Jeff noted that there is a difference between *suspend* and *cancel*. I complained about the cancellation process and pushed for a refund. Jeff agreed to reduce the outstanding charges by $50.

I might have faced additional hassles if I had disputed the charge with my credit card company. When I belatedly examined True.com's terms-of-service agreement, I found a section stipulating that if I were to "fraudulent[ly] report an authorized charge by True.com" as "unauthorized," I could be held liable for $1000 per incident in damages. I call that tough love.

True.com's president, Ruben Buell, told me that if I had followed the trail of cancellation links for one more page past the 'Suspend' turnoff, I would have been prompted to call the company's customer support line. So after all that effort, I still would have had to pick up the phone.

WHY MAKE IT SO HARD TO CANCEL?

ACCORDING TO Jared Spool, founding principal of market research firm User Interface Engineering, some Web site proprietors imagine that the easier they make it to sign up, the more customers they'll get. And pursuing the same logic in reverse, they may also suppose that the harder they make it for people to unsubscribe, the more customers they'll keep.

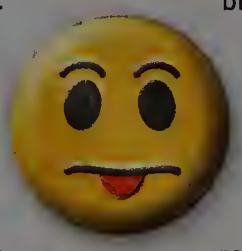
But the companies that made it easiest to unsubscribe are ones I would consider doing business with again. As for NetZero and True.com? Not on your life. ■

Senior Reporter Tom Spring works out of PC World's Boston office.

BREAKUP TIPS

Best Ways to Unload an Online Service

BREAKING UP WITH an online service doesn't have to mean an ugly divorce. Avoiding hassles just requires preparation and some postnup plotting.



• Use a single credit card to conduct all your online transactions. This will allow you to monitor all of your subscriptions from one statement.

• Before you become a subscriber, find out how easy it is to cancel. If you can't find a cancellation page on the site, ask the service how to find it.

• Ask what the terms of service are, before you sign up. For example, Equifax's credit monitoring service requires a three-month minimum commitment.

• Check with the Better Business Bureau (bbb.org) to see how common billing or cancellation complaints are against the service you're considering subscribing to.

• If you cancel, ask for a refund. AOL says that it provides a refund only to customers who request one; EarthLink and ESPN say that they issue refunds on a case-by-case basis to customers who ask.

• Pay with a credit card that allows you to dispute charges. MasterCard offered to resolve my refund dispute with NetZero by reversing the charge.

AMD
Smarter Choice

GAMER ULTRA SLI GT

- NVIDIA® nForce® 500 SLI Chipset MB with Dual 16X PCI Express
- **Genuine Windows® Vista™ Home Premium**
- Corsair 1024MB PC6400 DDR2 800 Dual Channel Memory
- 320GB 7200RPM SATA-II 3.0Gb/s 16MB Cache Hard Drive
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HERE'S HOW

EDITED BY ERIC DAHL AND DENNIS O'REILLY

HARDWARE TIPS

KIRK STEERS

Be a PC Crime Fighter: Keep Your Hardware Safe

"ONLY THE PARANOID survive."

What Intel's Andy Grove said years ago about the computer industry applies to computer owners as well. All the firewalls, virus scanners, and antispyware apps in the world won't do you any good if a bad guy has physical access to your PC. Use these tips, gadgets, and utilities to raise the shields on your hardware.

Lock down your PC: While notebooks have long been a prime target for thieves (see "Eight Tips for Holding Onto or Recovering Your Laptop" on page 126), desktop PCs are also vulnerable. Kensington (www.kensington.com), PC Guardian (www.pcguardian.com), and Targus (www.targus.com) offer products for physically securing your PC to a desk, wall, or other fixture. But since a chain is only as strong as its weakest link, make sure your anchor point is solid. Anchor points that attach via adhesive bonds may cost less, but I prefer a device like Targus's $47 Defcon Worksurface Lock (find.pcworld.com/55677), which bolts to a desk or other surface (see **FIGURE 1**).

You'll also want to protect your PC's memory modules, its graphics cards, and especially its hard drives. Your local computer shop should sell locks—priced at about $15—that secure your PC's case by blocking one of its chassis screw holes. If you're planning to buy or build a high-end PC, invest in a case with a lock.

Plug your memory holes: Your system's floppy and writable optical drives, as well as USB thumb drives and other types of external storage, make it easy for thieves to remove large amounts of data from your PC. SecurityKit.com makes several locks that physically block access to floppy drives, optical drives, and media-card readers. For $23 you can buy a four-pack of small locks for your USB ports from Lindy (find.pcworld.com/55678).

If you don't feel the need for a physical lock, you could try the $15 USB Lock AP utility (find.pcworld.com/55679), which controls access to your PC's USB ports and optical drives through an easy-to-use interface. And if you don't want to spend any money, Windows lets you disable almost any piece of hardware via Device Manager: Right-click *My Computer*, select *Manage•Device Manager*, double-click the drive or port you want to disable, and under 'Device usage' select *Do not use this device (disable)* (see **FIGURE 2**). However, be aware that this technique would merely slow down a data thief, who could reverse the changes using any administrator account on the system.

Block the boot: Stop intruders before Windows loads by enabling the startup password in your PC Setup program. Before you set a CMOS password for the first time, check your system's manual or

ILLUSTRATION: STUART BRADFORD; PHOTOGRAPHS: MARC SIMON

INSIDE

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131 SECURITY TIPS
Make sure your discarded data can't be read, whether on an old floppy, CD, DVD, hard drive, or other device.

FIGURE 1: SECURE YOUR PC by bolting it to a desk with Targus's Defcon Worksurface Lock.

the vendor's Web site for the password-reset procedure. Then enter the setup program by pressing the indicated key as your PC starts (but before Windows loads), and look for a password option.

A boot password is an effective way to keep the casual snooper out of your desktop PC or laptop. Still, unless you've locked your case, a determined interloper could reset the password by adjusting a jumper on the motherboard.

Keep your guard up: A CMOS password protects the computer when it's turned off, but isn't very handy if you want to step away from your PC while it's running. Many screen savers offer password protection, but for an added level of security, use a USB security token such as the $130 SecuriKey Professional from Griffin Technologies (find.pcworld.com/55681). When you remove the key from its USB port, your PC automatically locks until the key is replaced. Do-it-yourselfers can save some money by turning an ordinary USB key drive into a security token with the $5 TokenKey utility from DefendGate (find.pcworld.com/55682).

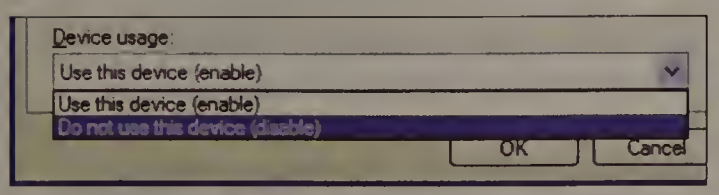

FIGURE 2: PREVENT DATA THEFT by disabling any port or drive via Windows' Device Manager.

Got crypto? The best way to keep your sensitive data unseen is to encrypt it. (See find.pcworld.com/55683 for our roundup of encryption programs.) Hardware-based encryption products such as Kensington's $70 PCKey (find.pcworld.com/55684) add another level of protection by combining software encryption with a USB token key. I also like Addonics's Saturn Cipher hard-drive enclosures (find.pcworld.com/55685), which incorporate a chip that seamlessly encrypts an entire hard drive with almost no setup or maintenance. The enclosures cost from $59 to $139. Each unit comes with two hardware keys that you use to access the drive. But remember, if you lose those keys, you lose the data. Browse to find.pcworld.com/55758 to read about new self-encrypting notebook drives coming soon from Hitachi and Seagate (scroll down the page to "Auto-Encryption").

Watch for snoops: Rogue keylogger programs aren't the only way for hackers to capture your passwords, e-mails, and other keyboard input; KeyKatcher from Allen Concepts (www.keykatcher.com) records keystrokes in a small device that fits between your keyboard cable and its PS2 or USB port on your PC. Use it to monitor keystrokes on your PC while you're away. The device costs $69 with 64KB of storage and $119 with 256KB.

Use one finger to rule them all: To control access without using a password, try Microsoft's $40 Fingerprint Reader (find.pcworld.com/55686; see **FIGURE 3**). Just swipe your finger instead of typing a password. Andrew Brandt offers tips on using these products at find.pcworld.com/55687.

Get a good grind: You shred your sensitive paper documents, but what can you do to destroy the sensitive data on CDs and DVDs headed for the trash? Aleratec (find.pcworld.com/55957) makes CD/DVD shredders that you can find online for as little as $37. (See the *Security Tips* column on page 131 for more ways to zap your digital data before you trash a disc.)

FIGURE 3: TOSS YOUR PASSWORDS in favor of a swipe of your finger by using a device such as Microsoft's Fingerprint Reader.

If all else fails, get some exorcise: Is your PC haunted? Many computers certainly act as if they are. Check your system with GhostRadar (www.ghostradar.co.uk), a USB device that "detects paranormal energies." Unfortunately, we couldn't rigorously test this device—though we've got a call in to Bill Murray.

PROTECT YOURSELF

LET YOUR WEBCAM be your eyes and ears while you're away from home or the office. A simple Webcam costs about $20, and a good surveillance-software package with motion and sound sensors, video

recording, and remote viewing from any PC with an Internet connection can be purchased for less than $50. NovoSun's free SurveillizCam Lite (find.pcworld.com/55688) provides basic video recording triggered by motion sensors, but for remote viewing and audio monitoring, you need a full-featured program such as DeskShare's $50 WebCam Monitor (free trial available; find.pcworld.com/55689).

For more-sophisticated security, IP cameras can be placed anywhere inside or outside your home or office to transmit their images to your PC over an ethernet or Wi-Fi network. D-Link's $152 DCS-G900 wireless IP camera, for example, lets you view the video it captures in any standard browser (see **FIGURE 4**).

An important consideration when you're shopping for an IP camera is how it will be powered. Cameras that connect to a Wi-Fi network avoid the hassle of running ethernet cables, but they aren't really wireless because they require that you run a power line to them. Devices that support the new Power over Ethernet standard—or IEEE 802.3—need an ethernet cable, but they draw power from the cable, which eliminates the need to use a separate power line.

Go to find.pcworld.com/31511 for past Hardware Tips *columns. Send your tips and questions to kirk_steers@pcworld.com. We pay $50 for published items. Kirk Steers is a* PC World *contributing editor and the author of* PC Upgrading and Troubleshooting QuickSteps *from McGraw Hill/Osborne Press.*

FIGURE 4: TURN YOUR PC into a sentry by connecting it to a wireless IP surveillance camera such as D-Link's DCS-G900.

EIGHT TIPS FOR HOLDING ONTO OR RECOVERING YOUR LAPTOP

ACCORDING TO THE FBI Computer Crime Survey of over 2000 firms, more dollars were lost in 2005 due to notebook-PC theft than from any other computer crime except viruses. What can you do to avoid becoming a statistic? Lots.

Stay in touch: You can't keep your eyes on your laptop at every moment, so rest a hand, finger, or other body part on your computer when you glance away.

Keep a low profile: Notebook carrying cases that *look* like notebook carrying cases might as well sport a sign saying "steal me." Carry your laptop in an unobtrusive bag or backpack.

Lock and load: Most notebooks come with a locking port that connects to cable locks made by Kensington and other companies. If your machine doesn't have a locking port but does have a VGA connector, you can batten it down with the $30 Defcon Video Port Key Lock from Targus (find.pcworld.com/55692). The device securely attaches a locking cable to any VGA port.

Be a screamer: Designed for when you're on the go, Targus's $50 Defcon 1 Ultra Notebook Computer Security System (find.pcworld.com/55693) has a motion sensor that triggers an ear-piercing shriek whenever your laptop is moved. The device is great for airports and restaurants, but it can be embarrassing when triggered inadvertently.

Cover it up: Lock up your laptop while it's in the car with the $99 Ncase Portable Safe (Car-Safe.com). To avoid broken windows, throw a newspaper or T-shirt over any valuable item to hide it and keep thieves from being tempted.

FIGURE 5: DETER THIEVES BY tattooing your notebook with a STOP label from Security Tracking of Office Property, which etches an ID onto the case.

Leave your mark: Write down your notebook's serial number and make an identifying scratch or mark to help identify the system if it's stolen. For $26, STOP (Security Tracking of Office Property; www.stoptheft.com) provides a hard-to-remove ID label for your laptop and lifetime tracking and notification if it is ever lost and then found (see **FIGURE 5**). The label acts as a theft deterrent—removing it reveals a "stolen property" tattoo burned into the case—but the service might be most valuable as an easy way for honest folks to return a lost laptop.

Release the hounds: Several services find lost notebooks by tracking down the Internet connections the devices make after they're stolen. The services install a program on the notebook that contacts a data center when the PC goes online after it's been reported lost or stolen. They also can delete some or all of the data on the hard drive if the machine has been reported stolen.

Absolute Software's Computrace LoJack for Laptops (find.pcworld.com/56027) takes advantage of a feature in the BIOSs of many notebooks made in the last year by Dell, Gateway, and other major vendors that lets the unit be traced even if tech-savvy thieves replace the system's hard drive or reinstall the operating system. Check with the manufacturer to see if your system's BIOS supports Computrace. The service costs $50 for a year's subscription, or $100 for three years.

Check your coverage: If your homeowner or other insurance policies don't cover stolen notebooks, see if you can add coverage, or get a quote for laptop insurance from Safeware (www.safeware.com).

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Cisco Systems

WINDOWS TIPS

SCOTT DUNN

No-Brainer Backups Using Windows' Own Tools

ANY PC USER who hasn't been hiding under a rock knows the importance of making backup copies of critical system and data files. But many people may not realize that Windows XP and 2000 have several built-in backup options. These tips will help you devise a perfect Windows backup strategy.

Option #1: Last Good Configuration: Every time you shut down your system, Windows makes a backup of certain Registry and driver settings (specifically, those in HKEY_LOCAL_MACHINE\System\CurrentControlSet). If things go awry and you can't start Windows (or you merely have second thoughts about a new graphics driver you've just installed), you can restore your machine to its previous state by pressing **<F8>** just before Windows starts. Use the arrow keys to select *Last Known Good Configuration*, and press **<Enter>**. (If you have already restarted Windows with hardware settings you don't want, this technique won't work because the system stored the info from those drivers in its backup when you most recently exited Windows.)

Option #2: Device Driver Rollback: Windows XP automatically backs up your old device drivers when you update them. You can restore a device to the way it was in happier times by reverting to this backup when a new driver causes problems.

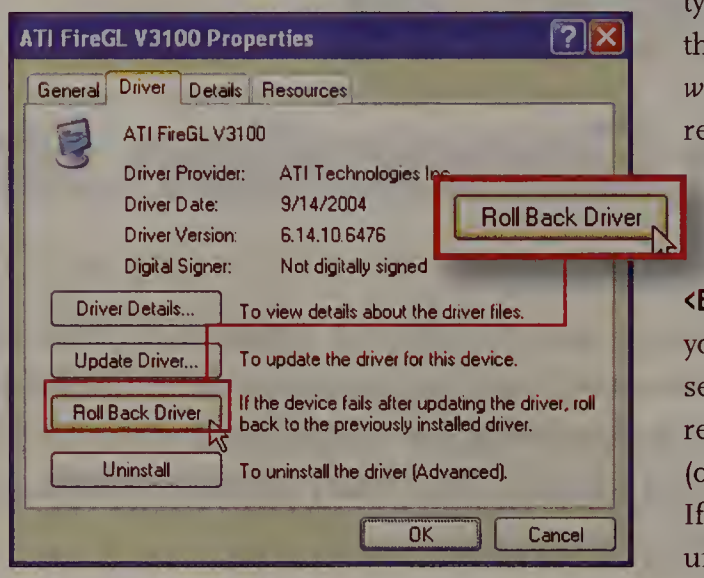

FIGURE 1: BAD DRIVER? Roll back to where you once belonged with Windows' Roll Back Driver feature.

Choose *Start•Run*, type **devmgmt.msc**, and press **<Enter>** to open Device Manager. Double-click the device whose driver you want to restore to open its Properties dialog box. Click the *Driver* tab and select *Roll Back Driver* (see **FIGURE 1**).

Option #3: System Restore: A good way to back up system settings, drivers, and critical system files in XP is by using System Restore, which can back up your configuration automatically on a defined schedule if you allocate sufficient storage to it. Use it to make backups (which it refers to as "restore points") prior to making any system change (Windows creates a new restore point automatically whenever you install new software). Choose *Start•Programs* (or *All Programs*)*•Accessories•System Tools•System Restore*. Then select *Create a restore point* and follow the prompts. System Restore doesn't affect your data, nor does it work every time, so don't count on it as your only protection.

Option #4: Hardware Profiles: You might find these useful when testing new hardware or device drivers. Choose *Start•Run*, type **sysdm.cpl**, and press **<Enter>**. Click the *Hardware* tab and then the *Hardware Profiles* button. Select your current profile—or the profile that you want to back up—from the list, and click *Copy*. Name it something like **Test Profile** and press **<Enter>**. Choose the startup settings you prefer under 'Hardware profiles selection', and click *OK*. When you restart your PC, choose *Test Profile* (or whatever you named the profile). If your experiments make Windows unusable, choose your original profile at the startup prompt; you may need to change your hardware back, too. If you like the new configuration, return to the Hardware Profiles dialog box and either delete the old default profile or make the new one your default.

Option #5: Windows' Backup Utility: To back up your files manually in XP and 2000, choose *Start•Programs* (or *All Programs*)*•Accessories•System Tools•Backup*. Users of XP Home Edition can install the program from the Windows CD: Look for it in the valueadd\msft\ntbackup folder, right-click the *Ntbackup* file, and choose *Install*. Be forewarned, however, that the utility's Automated System Recovery feature doesn't work in XP Home. ■

Send your Windows-related questions and tips to scott_dunn@pcworld.com. We pay $50 for published items. Visit find.pcworld.com/31607 for more Windows Tips. *Scott Dunn is a contributing editor for* PC World.

WINDOWS TOOLBOX

Backups Are Simple and Free With Cobian Backup

SEARCHING FOR A free, easy-to-use tool that outperforms the backups in Windows XP and 2000? Look no further than Cobian Backup, which makes full, incremental, or differential backups of existing local or network drives or FTP locations. Store your backups with .zip or SQX compression, or pick from four encryption options. It has all of the features you need for basic backups, and some not-so-basic ones, too. Visit find.pcworld.com/55670 for the download.

LINUX TIPS

SCOTT SPANBAUER

Best of Both: Windows and Ubuntu on a Single PC

"LINUX ROCKS!" "NO, it's lame—stick with Windows!" Visit any Web site or online forum where impassioned computer users debate the relative merits of operating systems, and you'll find endless disagreement. The only way to determine which operating system fits your needs is to run both on the same PC, configured for dual-booting. You also need to be able to access your data files from either OS, which is the trickiest part of the process.

Creating a dual-boot setup on a Windows machine is as easy as selecting that option when you install Ubuntu. As you switch between the two operating systems in your day-to-day work, you'll be able to assess for yourself the killer features, incompatibilities, and show-stopping flaws that make one a better choice than the other.

On a dual-boot system, Linux and Windows reside on separate disk partitions, each of which is formatted differently. Even though the file systems are incompatible, most recent versions of Linux can at least read files on Windows XP's NTFS partitions, though this may not be enabled by default. Few Linux distributions can write files to an NTFS partition right out of the box, and the reliability of this function hasn't yet been proven, so trust it at your data's peril. In addition, the software required to write files from Linux to NTFS drives is difficult to download and install.

Windows, conversely, lacks the native ability to read and write files on any of the several Linux file systems. The nifty and free Ext2 Installable File System for Windows (find.pcworld.com/55672) permits Windows XP to read and write in the Ext2 and Ext3 file systems many Linux distributions use (it doesn't work with the ReiserFS file system, however). While this is handy, especially if you spend most of your time using Linux and you keep your files there, I recommend another option: creating a separate partition for your data that uses the older FAT32 file system, which both Linux and Windows XP can read from and write to. In fact, FAT32 has been included with every version of Windows since 95's Service Release 2.

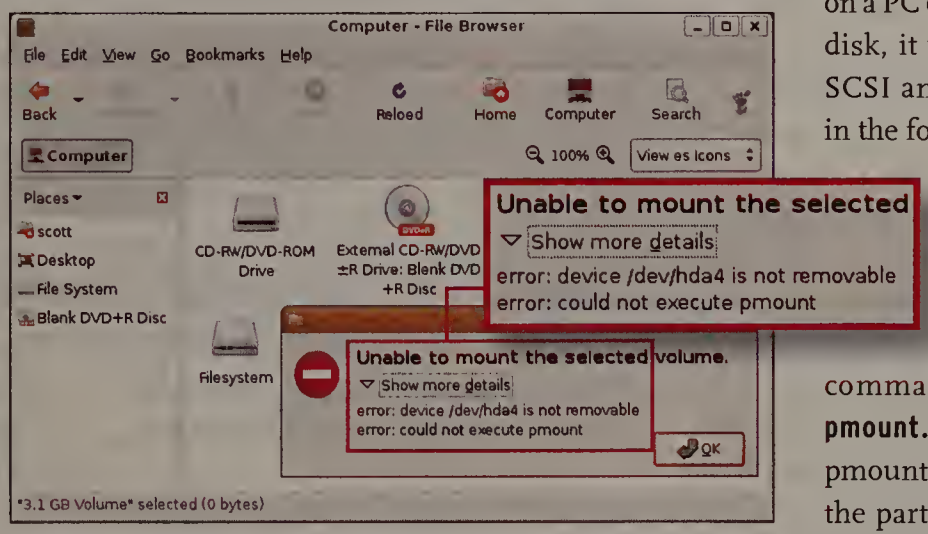

FIGURE 1: UBUNTU SEES YOUR DATA, but it can't mount the partition for reading and writing until you take additional steps.

FAT32 lacks the user-access security features of Linux's Ext2/3 and Windows' NTFS, but creating a separate FAT32 partition for your data allows you to install or upgrade your operating systems without having to back up or restore your data files. It also lets you read and write that data with minimal add-on downloading and configuration. If you need some assistance in resizing your existing partitions to create a new FAT32 partition, look no further than the free Partition Logic utility (find.pcworld.com/55673).

MOUNT THAT DRIVE

AFTER YOU CREATE your FAT32 data partition, you'll be able to write to it in Windows XP immediately. When you boot into Ubuntu Linux (I use Ubuntu 6.06), the partition appears in the Computer window (*Places•Computer*), but any attempts you make to open it will fail. That's because Ubuntu hasn't yet mounted the drive (see **FIGURE 1**). To instruct it to do so, click the *Show more details* link in the error message window, and jot down the partition's name—usually it's '/dev/hd*xy*', where *x* is the hard disk (the first one installed on your system is 'a', the second is 'b', and so on) and *y* is the partition number. For example, if your FAT32 partition is the second one created on a PC containing a single hard disk, it would be '/dev/hda2'. SCSI and SATA drives appear in the format '/dev/sd*xy*'.

Next, click *Applications•Accessories•Terminal* to open a command-line window, and enter the command **gksudo gedit /etc/pmount.allow** to open the file pmount.allow for editing. Type the partition name on the last line, click the *Save* icon, and close the editor. Now return to the Computer window, right-click the FAT32 partition, and choose *Mount Volume*. Close all open Computer windows, and then reopen one; your partition will now be accessible. You can use the same method to mount NTFS partitions, but in read-only mode. For more detail on these steps, as well as other strategies for reading and writing to Windows partitions in Ubuntu Linux, see the Ubuntu community documentation at find.pcworld.com/55674.

Send your questions and tips to nettips@spanbauer.com. We pay $50 for published items. Scott Spanbauer is a contributing editor for PC World.

ANSWER LINE

LINCOLN SPECTOR

Why Won't My PC Awaken From Power-Saving Mode?

WINDOWS DOESN'T AWAKEN from its standby or hibernate modes. What can I do?

Name withheld upon request

MANY STANDBY AND hibernate problems can be traced to graphics boards and sound cards. A simple driver update might get hibernation working again; browse to find.pcworld.com/55700 for an easy way to handle this chore.

Some applications can cause sleep/wake-up difficulties as well. As a test, put your PC into standby or hibernation when particular programs are running, and when they aren't. If everything works when you're not running a certain program, look for a free update, replace the app if no such update is available, or close the program before you take a break.

A BIOS update could also resolve the matter. Check your system vendor's Web site to see if one is available.

If something doesn't work immediately after your system wakes up, wait a bit and try again. Your computer could take a while to come back. If all else fails, enter the name of the hardware or software you installed most recently along with the words **standby** or **hibernate** in a search engine to find Web pages and Usenet discussions on potential problems.

CONVERT PDFs TO WORD DOCS

HOW DO I convert Adobe Acrobat PDF files into Microsoft Word's .doc format?

Joe Kuner, via the Internet

THERE ARE SEVERAL ways to accomplish this conversion that don't involve paying $299 for Adobe's full Acrobat program. Here are some of your alternatives:

Free: Open the PDF in Adobe Reader and select *Edit•Copy File to Clipboard*. Then open a new Word document and press **<Ctrl>-V** to paste in the text. This doesn't copy the file's images or page formatting, and every line of text becomes its own paragraph, so editing the file is harder.

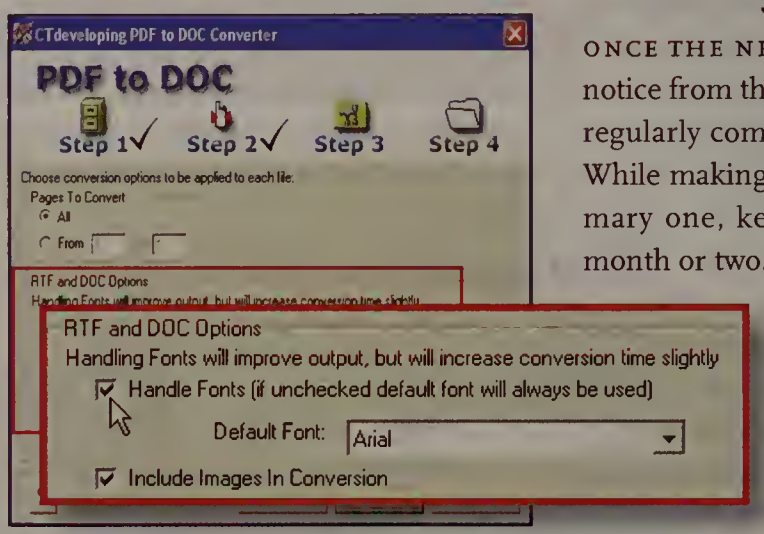

FIGURE 1: PRESERVE THE LOOK of PDFs when you convert them to Word documents with CTdeveloping's $10 PDF to DOC utility.

$10: CTdeveloping's PDF to DOC program (find.pcworld.com/55706; see **FIGURE 1**) accurately imports a PDF file's images as well as its text and all but the most complex page formatting. However, each line of text will be its own frame—as bad for editing as the free option above. Still, the program is useful for straight importing without any editing.

$40: Your PDF file's text will flow from line to line with only an occasional error when you paste it into a .doc file using Investintech.com's Able2Doc utility (find.pcworld.com/55707). Like PDF to DOC, the program converts most of the original file's formatting correctly.

SWITCH E-MAIL ADDRESSES

WHAT'S THE BEST way to notify people of a change in my primary e-mail address?

Joe Smith, Coos Bay, Oregon

ONCE THE NEW address is active, send a notice from that mailbox to everyone you regularly communicate with via e-mail. While making the new address your primary one, keep the old address for a month or two. Check both regularly, but send mail exclusively from the new account. If any people send you mail at the old address, be sure to alert them to the change, but send that message from your new address.

Once you've gone a week or two without getting a new, pertinent message at the old account, cancel it. ■

Send questions to answer@pcworld.com. Answer Line pays $50 for published items. Browse to find.pcworld.com/31577 for more Answer Line columns. You'll find Contributing Editor Lincoln Spector's humorous and other writings at www.thelinkinspector.com.

RECORD DIRECTLY FROM A DVD WITHOUT ADDED EQUIPMENT

IN THE OCTOBER issue's *Answer Line*, I recommended using a cable to record sound from a commercial DVD (go to find.pcworld.com/55760 and scroll down to find the tip)—this makes a legitimate backup. Girish Modi of Montgomery, Alabama, wrote to tell me that he can record sound off a DVD with Roxio Easy Media Creator's Sound Editor program. Some PCs allow you to directly record whatever is currently playing through their sound system. (Other sound cards intentionally disable this feature to protect copyrights.) To see if your system can do this, launch your recording software and look for a recording-source option named Default Mapping Device, Master, Stereo Mix, or something similar. Then see if it works with protected content, such as a commercial DVD.

ANDREW BRANDT

Don't Discard Your Privacy Along With Old Drives

DATA THIEVES DON'T have to be programming wizards to get their hands on your personal information. They often find hard drives that contain financial and other sensitive data at flea markets, charity shops, the city dump, and even on eBay. These tips will help you render an old drive's files unreadable.

Reformatting a drive, or deleting its partition, doesn't truly erase its files. Putting files into Windows' Recycle Bin makes them unreadable by the operating system, but they're still viewable for anyone using data-recovery software (or Windows itself if you don't empty the bin). That's why a dedicated drive-erasing tool is a must.

I destroy my old data using what storage experts call a "block-erasure utility" such as DBAN (available for free at find.pcworld.com/54672). DBAN overwrites each block on a computer's hard drive several times—up to standard levels specified for the Royal Canadian Mounted Police and the U.S. Department of Defense.

DBAN can create either a bootable floppy disk or an ISO file that you burn to a CD. Once you boot from the startup disk (you may have to tweak settings in your system's startup program to boot from the floppy or CD), just a few keystrokes will begin blowing away your data.

The Secure Erase utility (find.pcworld.com/54638) uses the Disk Drive Secure Erase command that's built into every modern hard drive's firmware. The wipe is incredibly fast: Secure Erase can do the whole job in about half the time that a block-erasure utility would take.

FIGURE 1: WINDOWS XP Pro's built-in encryption keeps sensitive files safe before and after deletion.

BRING OUT THE SLEDGE

SOME GOVERNMENT AGENCIES use huge grinders like wood chippers for metal to shred their discarded drives into tiny bits. Some folks chop their old drives in half with an ax, or drive nails through them. You may not have to go to such extremes, however. A few whacks with a sledgehammer can do wonders for your peace of mind, and maybe even reduce a little stress in the bargain. (Obligatory disclaimer: Make sure you know how to safely use any such tools, and don safety glasses before going to work.)

ENCRYPT TO DELETE

ENCRYPTING FILES ON your hard drive prevents unauthorized access to your information, but you can also use encryption to help ensure that the files you delete aren't recoverable. If you encrypt a file before you delete it, a file-recovery utility may be able to restore the encrypted version of the file, but the utility won't be able to decrypt it. The chances are good that no one else will be able to decrypt them either, especially if you lock the files and throw away the key—the encryption key, that is.

To use Windows XP Pro's built-in encryption, right-click the files or folders you want to encrypt, choose *Properties•Advanced*, check *Encrypt contents to secure data*, and click *OK* (see **FIGURE 1**). You can encrypt any files except system files. You could select all the folders on the C: drive (except the Windows folder) and encrypt everything inside—not only are the files already in the folders encrypted, but any files you place inside the folders afterward would also be encrypted on the fly as you save them into the folders.

Windows XP creates a unique encryption key automatically if you use this feature. If you wipe out your installation of Windows without backing up the encryption keys, however, and barring some future break in the encryption algorithm, neither you nor anyone else will be able to decrypt those files. If you choose to encrypt your files this way, you won't need to run a secure erase tool to ensure your privacy: Just blow away the partition, format the drive, and you're done.

Contributing Editor Andrew Brandt writes the Privacy Watch *column.*

REMEMBER TO DESTROY YOUR OPTICAL DISCS, TOO

IN ADDITION TO erasing hard drives, you need to securely dispose of CDs and DVDs containing sensitive data. Devices such as Aleratec's $50 DVD/CD Shredder (find.pcworld.com/54640) and Primera's $130 DS360 Disc Shredder (find.pcworld.com/54642) turn your optical media into crumbs. Flash media cards and USB memory keys, fortunately, don't need to be physically destroyed to be wiped clean. If you're worried that someone might attempt to recover files stored on flash memory, fire up the free Eraser block-erasure tool (find.pcworld.com/54644) to run a few passes of random data over the drive or card.

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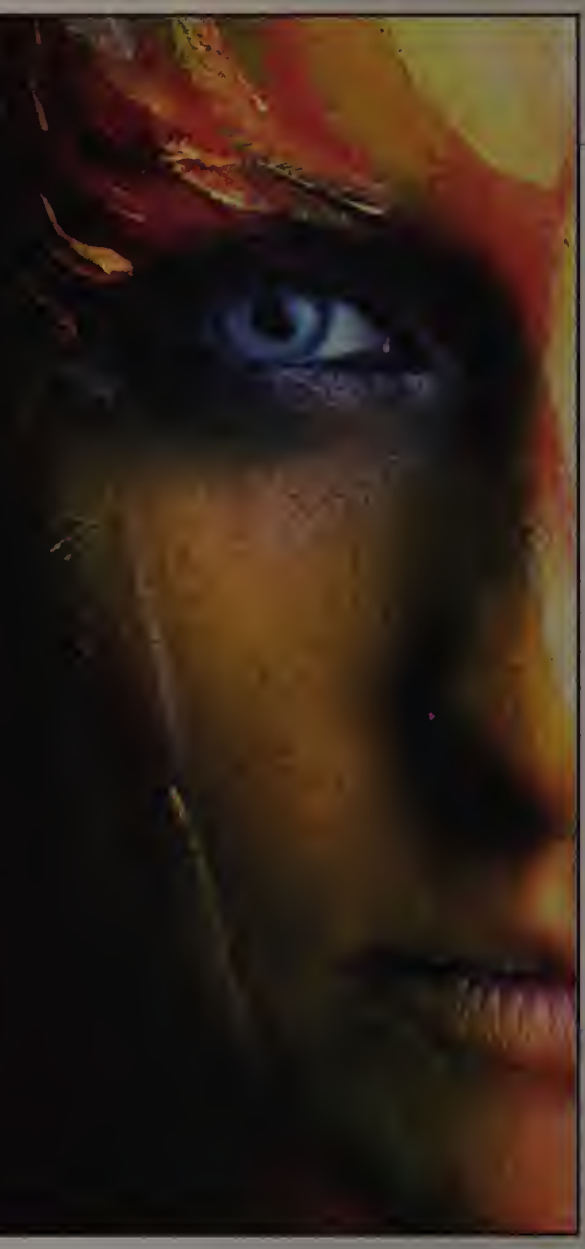

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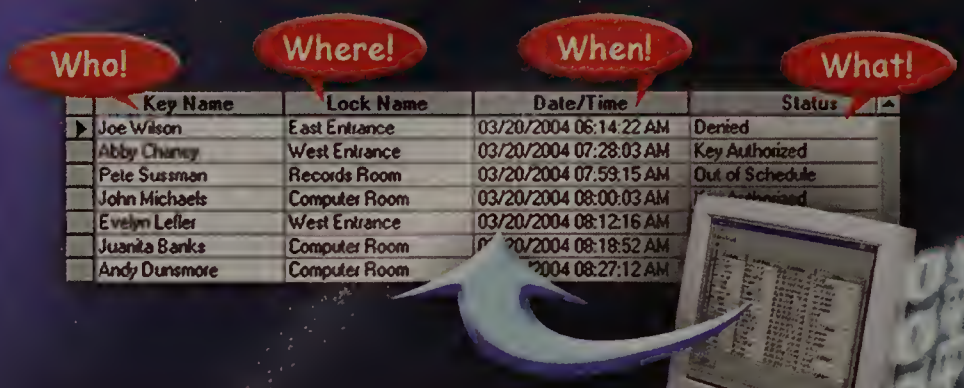

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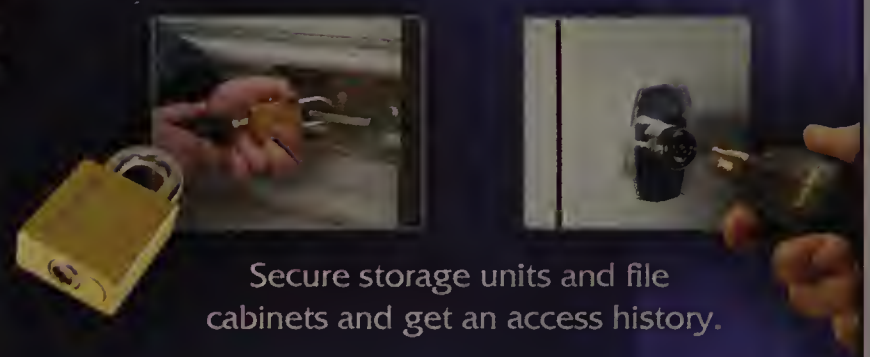

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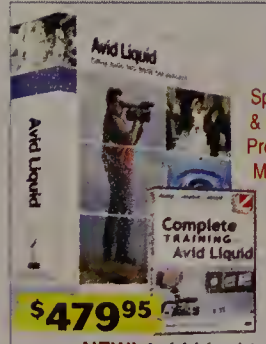

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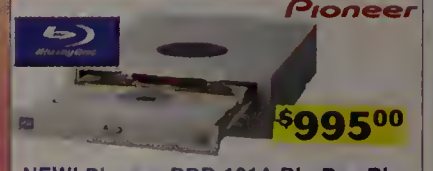

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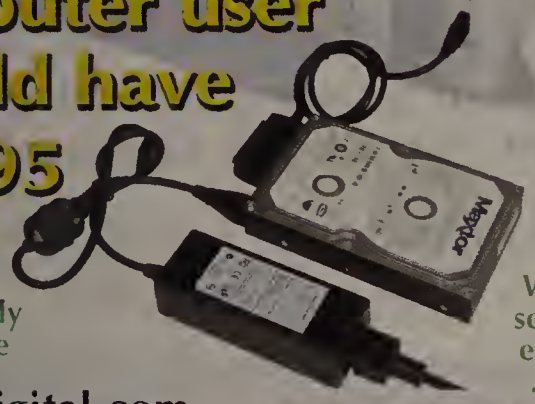

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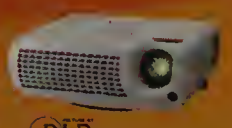

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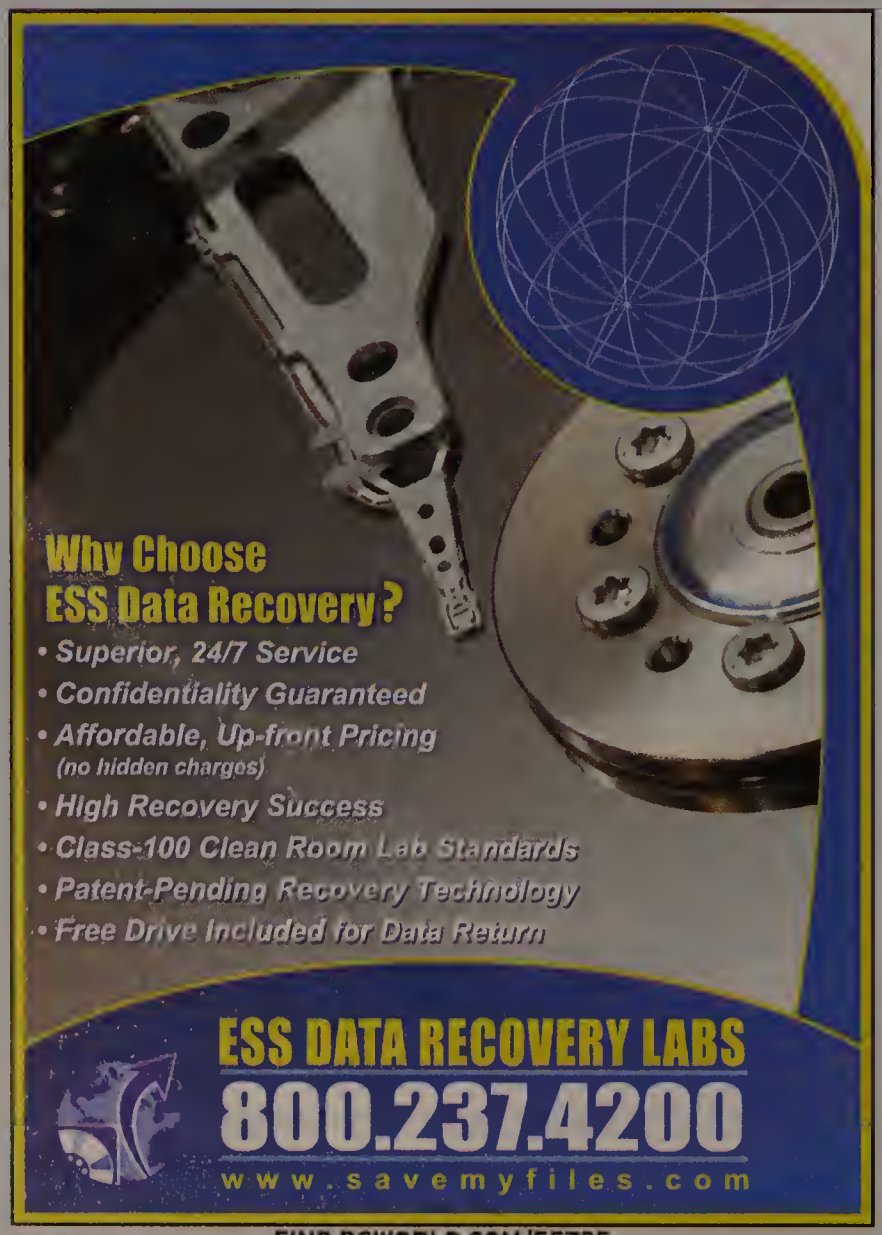

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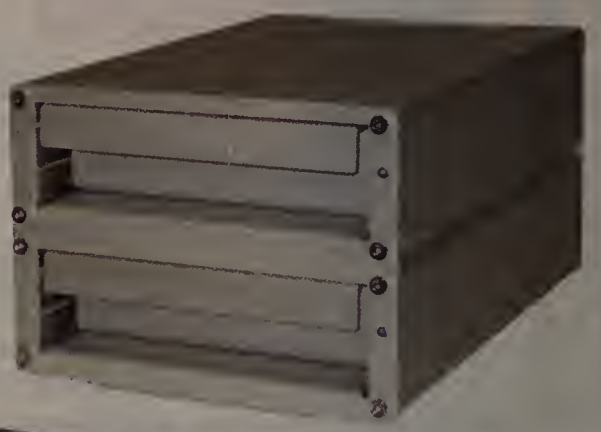

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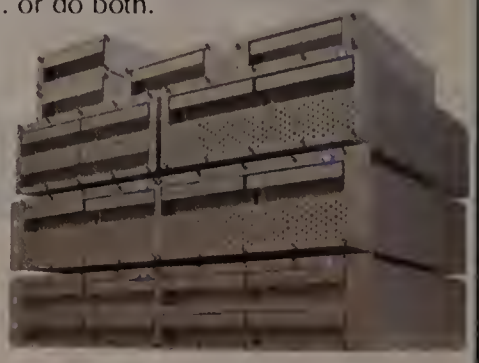

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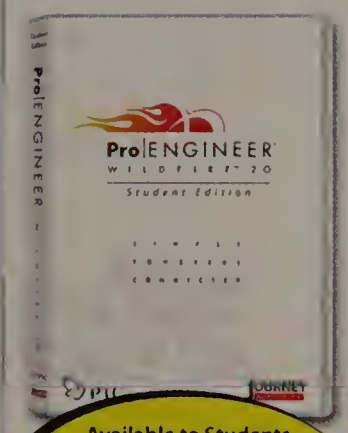

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FULL DISCLOSURE

STEPHEN MANES

Standards: A Tech User's Best Friend

IN A MASSIVE housecleaning a few weeks ago, I rediscovered my beloved TRS-80 Model 100, the first notebook I ever bought. Maxed out to 32KB (no misprint), it cost over $1000 back in 1983. But was its memory as good as mine? I tossed in four fresh AA cells and flicked the power on.

Glory be! The little cutie booted up instantly. I bowed gratefully to the god of standards, the one that specifies using batteries you can find in any drugstore instead of proprietary rechargeables.

Then I came back to reality. A day or so before, in a frenzy of discarding old cables, I had apparently tossed out the one for the Model 100—thereby rendering its only connection to the outside world, a blazingly fast 300-bps modem (no misprint there, either), unusable. And that was one cable I knew I wasn't going to find down at my neighborhood RadioShack.

But inside the little pocket manual carefully tucked into the plastic case were complete diagrams and descriptions of the cable's connectors: the familiar phone RJ-11 on one end and a big, round eight-pin DIN plug on the other. (The unusual design let you also hook up an acoustic coupler—youngsters, don't ask.) With a soldering gun and a little talent, you could assemble that cable today. Turns out you can even buy one on the Web—for $5.

Standards can rescue you. On a recent trip to Spain, I discovered that my revised packing system for the new "liquids, gels, or aerosols" air-travel rules had somehow left out not only the obviously solid AC charger for the very nonstandard jack on my Palm Treo 600 phone, but also the charging cable that works off my computer's USB port. The standard that won the day was on the inside: the universal SIM card in my GSM Treo.

Compatibility can turn a product from useless to useful.

Once I bought a cheapie phone to tide me over, I stuck in the SIM, which gave the new handset my phone number. True, getting it to handle data required a call to customer service, but it saved my bacon when folks back home needed to find me. Simple. Effective. Interchangeable.

But just when you think you have the standards thing figured out, something comes along to bite you. During my Spanish trip, one hotel's Wi-Fi service simply didn't work with my laptop. The machine could see the wireless network. It would let me enter the passcode the front desk had given me. But connecting would fail, and I'd be returned to the list of wireless nets in the area.

After considerable discussion with a savvy clerk, I figured it all out. The hotel's wireless router was cleverly using the WPA encryption standard—the newer and better alternative to the WEP encryption more typically used (when there's encryption at all) at public hotspots. But my machine is too old to know from WPA. Not only did it fail to make a connection, but it couldn't tell me what was wrong (though I bet Windows could have helped if its wireless services had been designed better).

As new standards supplant and augment old ones, figuring out where your gadgets fit into the current scheme can be frustrating. A USB 1.1 device may cause Windows to send up a scary howl of protest when you plug it into a USB 2.0 port—but at least the thing will work. Maybe I'll buy one of those $5 cables to see if 300-bps modems still do. ■

Contributing Editor Stephen Manes is cohost of PC World's Digital Duo *(www.pcworld.com/digitalduo) on public TV. Visit find.pcworld.com/31595 for more* Full Disclosure *columns.*

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